

*Krishnappa
Chandrashekara*



THE THINKING REED

Krishnappa Chandrashekara



In Memory of K Chandrashekara

(as one imperceptible year rolls by)

The day of his death was a dark cold day.
For him it was his last day as himself,
A day of nurses and rumours;
The provinces of his body revolted,
The squares of his mind were empty,
Silence invaded the suburbs,
The current of his feeling failed; he became his admirers.

Now he is gone
And wholly given over to unfamiliar affections,
To find his happiness in another kind of world
And be punished under a foreign code of conscience.
The words of a dead man
Are modified in the guts of the living.

But in the importance and noise of to-morrow
When the brokers are roaring like beasts on the floor of the bourse,
And the poor have the sufferings to which they are fairly accustomed
And each in the cell of himself is almost convinced of his freedom
A few of us will think of this day
As one thinks of a day when one did something slightly unusual.

.....

Earth, receive an honoured guest:
Krishnappa Chandrashekara is laid to rest.
Let this vessel lie
Emptied of its thoughts.

In the nightmare of the dark
All the dogs of India bark,
And the living nation waits,
Each sequestered in its hate;

Intellectual disgrace
Stares from every human face,
And the seas of pity lie
Locked and frozen in each eye.

With the farming of your thoughts
Make a vineyard of the curse,
Sing of human unsuccess
In a rapture of distress.

What instruments we have agree
The day of your death was a dark cold day.

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Krishnappa Chandrashekara

THE THINKING REED



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PREFACE

Chandru (Dr.K.Chandrashekara), who for many years, and till his last day, was on the editorial board of *Current Science*, the prestigious science journal published from Bengaluru, India, was fittingly honoured with one of the longest obituaries ever published in the journal¹. Following close on the heels of this eulogy, Raghavendra Gadagkar, Chandru's guide for his PhD, published an extended essay on the significance of Chandru's early work on insect diversity, in *The Wire* (India)². This was followed by a privately distributed tribute to Chandru with contributions by about half a dozen of his colleagues, students and friends³. A comprehensive website is also under construction by Karthik, his son, which has the ambitious target of including everything, both professional and personal, about Chandru⁴. Yet, a year after his untimely demise, one cannot escape a pervasive feeling that so much remains to be told about Chandru who was not only conversant in a multitude of fields of knowledge but more importantly shaped the thoughts of so many minds. With this in mind we interacted and corresponded with a number of people from students, to colleagues, to acquaintances of Chandru requesting them to write about how he had touched their lives. The multifarious responses we received are presented here.

While Jean Paul Sartre's brilliant autobiography titled 'Words' dealt with reading and writing, Chandru's, if he had written one would have dealt with speaking too. Like Sartre he too was fascinated and in love with 'words'. He once mentioned that he was a compulsive reader during his early student days in Varanasi, reading anything from scraps of paper he found along the wayside to those used by street vendors to wrap food in. To paraphrase the black Roman-African playwright Publius Terentius Afer 'nothing that could be expressed in words was alien to Chandru'. He was a wordsmith in the noblest sense of the word. If he wasn't reading or writing he would be speaking. And it was the latter that he excelled in. He was no mean writer either. The passing of WD Hamilton moved him to write a masterly 1500 words long essay, sitting late into the night, titled 'William Douglas Hamilton – A tribute to a leading biologist of our times' which was published in the 'Science and Technology' section of the Deccan Herald dated March 21, 2000. With references to some of his other heroes, Darwin, Ed Wilson, Haldane and Lovelock, and set in an Indian context, his wide reading, linguistic dexterity and grasp of the principles of modern evolutionary biology were in ample evidence in this essay.

He often referred to CP Snow's famous / notorious (depending on which side of the debate one stands) Rede Lecture delivered in 1959 which sparked a debate, acrimonious at times, that continues unabated to this day. From FR Leavis to EO Wilson and SJ Gould, many have argued at length on the validity of the divide that Snow postulated between those practicing the humanities and the natural sciences. Chandru too held strong, definitive views on this subject. He decried the divide, particularly in Indian academia and tried to bridge the gap by exposing his students to the pleasures of both fields of study. Chandru, in true spirit, exemplified the twenty-first century third culture intellectual, who effectively bridged the gap between the two cultures.

He formed an unbroken modern link going back into 'India's long argumentative tradition'. If 'nature abhorred a vacuum' in Aristotle's telling phrase, Chandru, abhorred orthodoxy in equal measure. It was India's heterodox tradition that appealed to him. The creeping sense of insularity, small mindedness and malevolence that seemed to be taking over the national consciousness deeply troubled him and the anguish coupled with a deep sense of foreboding was increasingly on display in all that he said and wrote in his many mails to his friends. He greatly admired MK Gandhi and in a rare display of his belief in all that Gandhi stood for, and perhaps suggesting the Gandhian ethos as an antidote to the rising levels of anger and intolerance in various parts of our country, he once walked in public, unabashedly dressed (or undressed) as the 'half naked fakir'.

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1. <https://www.currentscience.ac.in/Volumes/120/08/1396.pdf>
 2. <https://science.thewire.in/the-sciences/krishnappa-chandrashekara-insect-population-diversity-tropics/>
 3. <https://archive.org/details/a-tribute-to-k-chandrashekara-18th-may-2021>
 4. <https://www.rememberingchandru.com/>



Photograph: GP Brahmaprakash

With the onset of a physically enfeebling pulmonary ailment Chandru found himself constrained from indulging in arduous tasks like the intense fieldwork that he had once undertaken to sample insects at Sirsi and Kumta as detailed in his mentor Gadagkar's essay referred to above or to undertake expeditions for the collection of insects in difficult terrain. Though he bore this debility with stoic nonchalance, great composure and equanimity, one could sense restlessness and frustration in him at the curbs that this imposed on the limits to his physical activities. To the extent possible he did not let this hinder his passion for outdoor activity. Nothing exemplifies this more than his active participation in the protests that shook GKVK in September, 2001 over the move by the Government of Karnataka to acquire land (being used for experimental purposes, some long term in nature) from the University for gifting to the corporate sector. He also continued to undertake tours for the collection and study of insects making sure that he did not unduly tax himself physically (though his exuberance and enthusiasm for everything that he did led more to the observance of this in the breach, sending shivers down the spines of his deeply concerned wife and others aware of the grave dangers that this entailed).

Black day for UAS students, faculty members

DH News Service

BANGALORE, Sept 27

It was a black day for the students and faculty members of University of Agricultural Sciences, Bangalore, as most of them irrespective of their positions, were chased and camed by the police. The scene in the University campus was touching as one could see professors and students crying, hugging each other and consoling themselves.

Some of them who came to the University campus as usual by university buses, were shocked, as the cops started beating them soon after they got down from the buses. Most of the students were not even aware that section 144 has been clamped. "Why are they hitting us?" the bewildered students asked.

Women professors and girl students too were not spared by the police force which had only one women constable.

Professor Savithramma became the early victim of police. Her students, who saw her

being beaten up by police, started crying. "Why are you beating our professor. Are you not ashamed," shouted a girl student who alleged that police even abused her.

Final year student Chandrakala, showing injuries on her hand due to caning by police, burst into tears. "We did not know anything about the clamping of section 144. We were just entering the campus. The police asked us to run and started beating us," she said.

Director of Instructions Dr P G Chengappa, who is principal of agricultural college, was also beaten up. Some of the students who were roughed up by police came to him to narrate their woes. But on learning that he has been beaten, they started crying.

On seeing all these, UAS vice-chancellor Dr A M Krishnappa decided to relinquish his post. But as soon as he left for Governor's office to hand over the resignation letter,

hundreds of students and staff members stopped him and snatched away the letter and asked him to desist from making hasty decisions. "I am the student of this university and I have also been serving here as faculty member for the last 32 years. Why should I continue if I cannot protect my students and prevent the taking over of prime land in the University by IT department much against the wishes of every one?" he said.

An associate professor ridiculed IT Minister B K Chandrashekhara's earlier statement that he would solve the problem of land allotment for park in a scientific way. "Is this the scientific way. Mr Chandrashekhara is speaking of?" he wondered.

Meanwhile, the UAS Kannada Sangha members have started an indefinite satyagraha demanding Agriculture Minister T B Jayachandra's resignation and also a halt to cutting of trees for setting up the BT park in the campus.

VC condemns lathi-charge

BANGALORE, Sept 27 (DHNS)

University of Agricultural Sciences, Bangalore, Vice -Chancellor Dr A M Krishnappa today condemned the police lathi-charging against the students and staff members of the university. Speaking to reporters he termed the act as "inhuman" and said police had not asked for his

permission to enter the campus.

He also said that the University will make an appeal to the government to change the location of the proposed BT park from the present plot near judicial layout to the one near Yelahanka-Yeshwanthpur Road as suggested by the Board of Regents of the University.

The news item that appeared in the Deccan Herald dated 29 September, 2001. Courtesy Karthik Chandrashekara and S Subramanya



Chandru (centre) in the photograph on the right displaying his bruises after having been brutalised by the police. [Photographs that appeared along with the news item on the page above on 28 September, 2001]. Courtesy Karthik Chandrashekara and S Subramanya

The essays in this compendium, in the form of reminiscences, repeatedly and pointedly bring out all these facets of the 'many faces of Chandru's (crazy) mind', to echo the title of K. Shivaram Karanth's insightful autobiography. It goes without saying that we are grateful to all those who responded to our request and helped paint a more complete picture of the Chandru we all thought we knew. We admire Karthik Chandrashekara for assiduously pursuing every lead in search of elusive information on his father and thank him for placing it all at our disposal.

Prashanth Mohanraj
 Srinivasan Ramani
 Poornima Belavadi

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Chandru - the go to man

S Ramani



On the 1st of April, 2021 at 7.50 pm I received a call from Chandru and although I kept repeating “Hello Chandru” several times, except for some voices near the phone I could not hear Chandru’s familiar voice saying “*Helappa Ramani*”. The call then got disconnected. Little did I then realise that on the 3rd of April, 2021 his voice would fall silent forever. It has left me completely shattered and the thought will keep haunting me for my entire life as to what Chandru had wanted to convey on that day. Sadly, I will never know.

Dr Krishnappa Chandrashekara (1957-2021) was more popularly known as Chandru or ‘*Kol-man*’ (read in Kannada) to his friends and colleagues, Shekar to his family members and officially Dr K Chandrashekara or Prof. Chandrashekara to his students and acquaintances.

Memories, by their nature, are ephemeral tending to fade more than linger with the passage of time. Therefore, I have not attempted to date most of the incidents that I have tried to recall, fearing I might trip up on their accuracy. What follows is an attempt to bring out the significant traits, personality, and charisma of Chandru, through a loose recall of several incidents and episodes, mostly personal and a few professional, in my long association with Chandru, a dear friend of mine for more than four decades.



They had a very friendly ... dog called Fido During lunch, Fido would be fed first by Chandru’s mother ... [after which he] would retire [satisfied to] his corner if [however he had been] denied... any of the dishes, Fido would refuse to go to his corner and continue to linger [at] the dining table, asking for his share of that missing dish ... [and only after getting it would] the now appeased Fido ...retire to his corner

Our association began as students of Entomology during our post graduate programme in the Department of Entomology at Hebbal Agricultural College in 1979. Chandru was then a wiry and sprightly young boy. We had enrolled in a course “New Tools in Insect Pest Management” offered by Dr S Lingappa. Those were the days when the green-coloured buses of UAS, Bangalore used to ply from different corners of the city bringing students and staff to the Hebbal and GKVK campuses. Their schedules were so meticulously planned that they arrived at the Hebbal campus at the same time (unimaginable in the chaotic traffic of



*The young Chandru, wiry and sprightly.
Photo: N Sigamani*

today's Bengaluru). Chandru used to come from his residence in Thyagaraja Nagar and board the bus at NR Colony, one of the farthest starting points from Hebbal. Following the saying 'Time and tide wait for no man' these buses would leave at the appointed time. A few minutes delay would entail you missing the bus as I am sure many would have experienced. Young Chandru was no exception and there were indeed times he would be late for the bus. Then began the race to try and reach the college by catching BTS buses. Huffing and puffing, he would finally arrive for Dr Lingappa's class, a few minutes late. Dr Lingappa would have just started on his lecture for the day and Chandru would stand at the door and say, "Excuse me, Sir".

Dr Lingappa would retort, "Why are you late, Chandru?".

Chandru would reply very politely, "I missed the bus, Sir".

Pat would come the repartee from Dr Lingappa in his inimitable accent and style "You missed the bus, or the bus missed you?", eliciting a sheepish grin from Chandru and sending the rest of the class into peals of laughter.

During the course under the Trimester system, we had quizzes and term exams galore and Dr Lingappa had his own style of setting questions with marks in decimals for the short questions requiring precise and appropriate words as answers. Some students had the uncanny ability to decipher and write the exact words the answers required that would fetch the nod of Dr Lingappa during his correction and Chandru had this in no small measure. When the corrected papers would be distributed, some students would find that their answers did not fetch them the full marks (in decimal places) and they would all troop in and peer into Chandru's answer paper, only to find his answers had been marked right because of his precise and appropriate answers. The arguments would continue (in those days, this was encouraged by the teachers) but Dr Lingappa would stand his ground and quote Chandru as the example for the right answers, silencing the rest.



It was during the retirement function of Dr GP ChannaBasavanna (GPC), the then Head of the Department of Entomology, that Chandru's enthusiasm to preserve heritage was amply exhibited..... Soon after the function Chandru grabbed the [slip of] paper [with the poem] from me and slipped it into his pocket. Several years later [when] we had a function to pay tribute to GPC (on his 80th birthday) Chandru [who] had preserved this paper very meticulously ... fished it out to enable us to include [it] as part of the souvenir [planned for the occasion].

My association with Chandru grew over time to flourish into a long-lasting friendship that grew into my becoming part of his inner circle for whom invitations were extended to visit his house for lunch during various festivals. Being hostelites we would gleefully accept these. His entire family would shower so much of love and affection on us that we would feel completely at home. They had a very friendly pet dog called Fido (meaning "faithful" in Spanish and Italian) who had some wonderful abilities. During lunch, Fido would be fed first by Chandru's mother, before all of us sat down to lunch and Fido would retire to his corner, satisfied that he got all the dishes that had been prepared. On some days, if for any reason she denied him any of the dishes, Fido would refuse to go to his corner and continue to linger near the dining table, asking for his share of that missing dish as we sat down for lunch. Once served the now appeased Fido would retire to his corner to rest. We would be greatly awed at the wonderful olfactory ability of this genial pet, who was indulged in by the family. The unstinting warmth, love and affection showered on us by Chandru's family built an everlasting relationship with them that continues to this day.



The archival desire in Chandru went way beyond just displaying names and photographs of the heads of the department ... prompt[ing] him to pick up old instruments ... and other appliances ... in the department ... Several of these (epidiascope/Overhead projector/Potter's tower/physical balances/stage microscopes/lantern slides/Riker mounts), [he knew] would [stand testimony to] the technology available [in the past] and how they were ... use[d]. His cherished dream was to [establish] a museum ... [for the display of] such items in the department.

It was during the retirement function of Dr GP ChannaBasavanna (GPC), the then Head of the Department of Entomology, that Chandru's enthusiasm to preserve heritage was amply exhibited. In my own small way of showing respect and love for GPC, I had penned a small poem on him the previous night but did not have the courage to read it during the function, although I had shared it with a few of my friends including Chandru. Despite their goading me several times to go up and read it, I dithered out of shyness. Time was running out and the function was almost over. The vote of thanks was to be proposed by me and Chandru urged me to read it at least then. This did the trick and I picked up courage and read it. I had written the poem on a sheet which I had torn from a writing pad. Soon after the function Chandru grabbed the paper from me and slipped it into his pocket.



His desire to bring in funds for the development of the department was so strong that he was largely instrumental in bringing the DST-FIST project for developing infrastructure and facilities for teaching and research in the department. The department was [perhaps] the first to get this in the university and several other departments followed suit, probably with guidance from Chandru.

Several years later we had a function to pay tribute to GPC (on his 80th birthday) and we thought it fit to bring out a souvenir containing tributes and reminiscences of the genial professor. Chandru had preserved this paper very meticulously and fished it out to enable us to include the ode as part of the souvenir. This was just a sample of Chandru's desire to preserve heritage. This urge was so strong in Chandru that throughout his career he would be seen picking up and preserving old issues of journals/books/published papers/letters/seminar proceedings and the like from the dusty cupboards of the department, considered a waste and ignored by the rest. The archival desire in Chandru went way beyond just displaying names and photographs of the heads of the department and prompted him to pick up old instruments, microscopes and other appliances that were there in the department and restore them to working condition. Several of these (Epidiascope/Overhead Projector/Potter spray tower/physical balances/stage microscopes/lantern slides/Riker mounts) would bring back wonderful memories of the technology available then and how they were put to great use. His cherished dream was to make a museum of all such items in the department. Hope Chandru's museum dream is fulfilled one day.



He made it a point to keep all ... instruments in ... [working] condition. Many a time one could see him meticulously cleaning and doing minor repairs to microscopes.

His desire to bring in funds for the development of the department was so strong that he was largely instrumental in bringing the DST-FIST project for developing infrastructure and facilities

for teaching and research in the department. The department was one of the first to get this in the university and several other departments followed suit, probably with guidance from Chandru. This brought in several instruments and infrastructure that were woefully lacking for teaching and research. The microscopes that were procured during the project revolutionised the teaching of several UG and PG courses in the department.

“

[He] could not tolerate mishandling of equipment and his first practical classes in several courses would ... start with a primer on ... microscope use to prevent mishandling and [consequent] damage.

In addition, Chandru was a stickler for safety in the laboratory and insisted that all his colleagues and students strictly follow safety protocols. He made it a point to keep all the instruments in proper condition. Many a time one could see him meticulously cleaning and doing minor repairs to microscopes. He would also ensure getting microscopes and other equipment serviced by the supplier to keep them in perfect working condition. This way several equipments that had been given up as unserviceable were brought back to working condition through his efforts, benefitting both staff and students. Chandru for one could not tolerate mishandling of equipment and his first practical classes in several courses would always start with a primer on proper microscope use to prevent mishandling and damage.

Chandru was one who believed strongly in getting funds through externally funded projects. The stumbling blocks in operating the funds and the bureaucratic procedures would be daunting but he would 'fight' them all and emerge victorious. This ability of his to rise above the rest and persevere through the difficult procedures of purchase and accounting made him the 'go-to-man' for several of his colleagues who got entangled in this web. Chandru mastered the art of understanding and reading between the lines the rules and regulations and put them to good use to outfox and outwit the powers that be to the great benefit of his colleagues in the department. During several meetings and interactions Chandru was the one who would fearlessly put forth what he thought was right without fear or favour. He was always armed with a quick riposte and possessed in good measure the ability to convince and win over others by using sound arguments. He was instrumental in bringing in many externally funded projects to the department from different funding sources. In fact, he was perhaps the first Assistant Professor to get an externally funded project. His presentation skills while drafting and presenting project and award proposals to funding/award giving agencies were extraordinary and stood him in good stead. Even for the University he turned out to be the 'man with a golden arm' as the Accreditation Reports, Sardar Patel best university award proposals, etc. were carefully drafted by him and won accolades. During his stint as an Entomologist in the AICRP on Chickpea for the Bangalore centre, he was also chosen by the Project Coordinator as the PI for presenting the reports of Entomology projects during the annual workshops of the AICRP.

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Chandru mastered the art of understanding and reading between the lines the rules and regulations and put them to good use to outfox and outwit the powers that be to [the] great benefit of his colleagues in the department [and the university].



His ... skills [in] drafting and presenting project and award proposals to funding/award giving agencies were extraordinary he turned out to be [the] 'man with a golden arm' [even for the university] as the Accreditation Reports, Sardar Patel Best University Award, [and other] proposals were carefully drafted by him [winning] accolades [for the university].

The proposal to get the Niche Area of Excellence in Insect Taxonomy was honed and perfected by a team led by Chandru. Though it took several years and had to be rewritten quite a few times to get the nod from ICAR, his grit and strength bore fruit and it became an iconic project for the department and the university. The project greatly helped in our putting up state-of-the-art infrastructure and facilities for storing and curating the department's priceless insect collection and for teaching insect taxonomy and training insect taxonomists across the country. The showpiece facility housed in an annexe of the department has turned out to be a 'must visit 'for school and college students, nature enthusiasts, and dignitaries who visit the university. The facility also serves as an important hub for developing international collaboration in insect taxonomy. The inputs and ideas given by Chandru for preparing the video presentation of our insect collection facility aided in presenting this at a recently held international webinar showcasing insect museums around the world. The presentation got several taxonomists interested in different groups of insects, to look up to this collection, as an important resource for conducting biodiversity studies. Quite a few expressed their desire to collaborate and come and work here with our collection.



At least six Insect Exhibitions, beginning with the collaborative effort with VITM in 1978, have been conducted over the last 40 years under the auspices of the Entomology Club ... and every one of them was embellished with the ... ideas and exhibiting techniques appropriate to the times. Chandru's [role] in each one of them [was indispensable for their success].

The desire to reach out to the public and exhibit the wonderful traits of the insect world was ingrained in some of us and Chandru was one of the main architects of this team. At least six Insect Exhibitions, beginning with the collaborative effort with Visvesvaraya Industrial and Technological Museum in 1978, have been conducted over the last 40 years under the auspices of the Entomology Club in different venues and every one of them was embellished with the wonderful ideas and exhibiting techniques appropriate to the times. Chandru's part in each one of them is indeed remarkable.

I still remember how during one such exhibition conducted in Gandhi Smarak Bhavan several of us in the core group just waited for all the other volunteers to leave after they had set up the exhibits to their satisfaction. Then began the real work – that of rearranging all the exhibits with the help and guidance of Prof. Viraktamath to make the presentation more cogent and interesting. Working through the night the exhibition was readied to the satisfaction of the core team by the break of dawn and we could just about get back for the inauguration after refreshing ourselves. During this exhibition we had even arranged a slide show with accompanying recorded commentary on different aspects of the insect world using transparencies and a Carousel projector. The technology and funds available at the time only permitted us to use a cassette player for the commentary which was synchronised with the changing of the slides. In fact, it was Chandru who had come up with this idea.



Chandru - sandwiched between images of wasp (on his back) and a butterfly (in front) - two insects that bookended his life. Photo: HM Yeshwanth

“

During ... times [when] we worked through the night [to organise insect exhibitions] ... sumptuous dinners prepared by Chandru's wife, Yamini [would] arrive from his house for all of us.

One of the subsequent exhibitions involved scanning and putting out images on to posters and adding the appropriate text. The scanning technology was greatly limited, and it would take a long time to scan each image, and this was accomplished due to ARV Kumar and Chandru burning the midnight oil over several months. During every subsequent Insect Exhibition, the



Chandru photographing aquatic insects on the Kaas plateau, a biodiversity hotspot near Satara, Maharashtra. Photo courtesy: HM Yeshwanth

work of deciding on the content, wording and sequencing of the charts and catchy titles for the exhibits were overseen and approved by Chandru. During these times as we worked through the night, a sumptuous dinner prepared by Chandru's wife, Yamini, used to arrive from his house for all of us.

In recognition of this passion of Chandru's, HM Yeshwanth and some other students thought it best to have an insect exhibition on the eve of his retirement. The others readily accepted the proposal and worked with great enthusiasm to put together a wonderful show. "Kitavismaya" conducted on the eve of his retirement in 2019 at GKV campus had his brilliant ideas etched into every aspect and was a resounding

success from the organisational angle, increased footfall and won the appreciation of one and all.

Chandru was also an exceptionally good photographer and his photos won him wide recognition. He would be seen with camera in hand during several field trips, clicking away images of insects. The one he took of a leaf insect in Kumta during his insect diversity work in the Western Ghats was featured in the Sanctuary Asia (Volume X, No. 3, 1990) magazine. He had taken images that featured in the theses of many students.

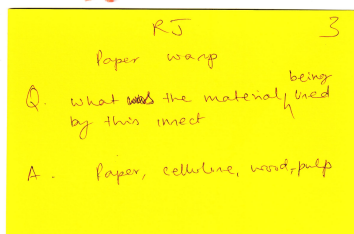
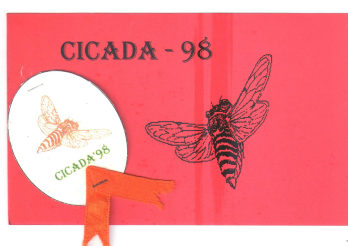


Chandru was solely responsible for organising the seminar “Bugs and Biology” on the eve of the retirement of Prof. CA Viraktamath This novel way of honouring and respecting the person thought out and executed to perfection by Chandru won the appreciation of all.



11. The leaf insect — Kumta, Karnataka.
Photo: K. Chandrashekara.

A leaf insect, photographed by Chandru, that received special mention in a wildlife photographer competition organized by Sanctuary Asia Magazine Volume X, No. 3, 1990. Photo of photo courtesy: Karthik Chandrashekara



Question and answer written on card by Chandru for 'Cicada - 98' - the quiz competition organized by the Department of Entomology, UAS, GVKV for school children. Photo: HM Yeshwanth

The Entomology Club also conducted an “Insect Quiz” for school and college students in 1996 and 1998. The framing of questions and picking out of visuals for this was an enormous task and was limited by the available technology of the time. In addition to colour transparencies the team led by Chandru found ways and means of getting video clips and playing sound clips for the different rounds with great agility. It involved several nights of painstaking effort in Chandru’s residence, playing the video and copying the exact portion onto a video cassette to be played on a large TV screen. During the long hours we spent in his residence his wife, Yamini, used to untiringly provide us eats and beverages, served with great love and affection. The quizzes were a resounding success and got the appreciation of all and the full credit for this goes to Chandru. The cards (bearing cicadas) with the questions written out in Chandru’s hand are still there in the department.

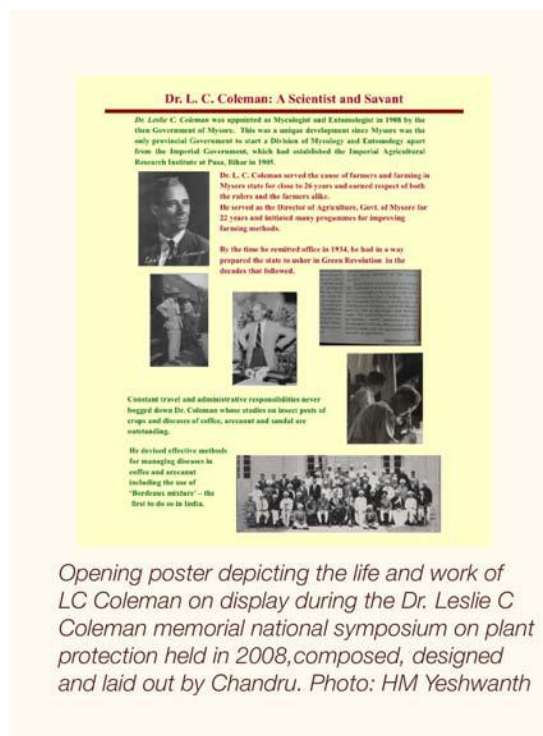
The norm during every retirement function was to have a meeting and to get the attendees to speak about the retiring person. The function would not be considered complete without the presenting of a shawl and fruit basket to the retiree with the ritualistic message “Wish you a happy retired life” (a polite way of saying ‘glad to see the back of you?’). Chandru would detest such functions and always thought we should honour the person, recount their contributions, and make them feel welcome to visit the department and continue to offer ideas and opinions from their rich experience for the development and progress of the department. To this end the

Department of Entomology in particular and the University of Agricultural Sciences, Bangalore in general have been very proactive and positive and you can see several retired teachers who continue to embellish the department, offer courses, guide students and continue their own research work with or without the tag of an Emeritus post.

In line with his thinking Chandru was solely responsible for organising the seminar “Bugs and Biology” on the eve of the retirement of Prof. CA Viraktamath (CAV). The seminar had eminent speakers speaking about their own work and recounting the contribution of Prof CAV in their fields, in addition to one of us presenting a detailed biography of CAV. This novel way of honouring and respecting the person thought out and executed to perfection by Chandru won the appreciation of all.

Thus, when the idea of celebrating the 75th birthday of Prof. CAV was mooted, Chandru began discussing and initiating preparations a year in advance. This time around we could solicit and get the support of international experts in the field of leafhopper taxonomy, in addition to taxonomists and others from our country, who were closely associated with CAV, and they gladly agreed to grace the occasion. It was a singular moment which showed the great regard and love for CAV from all parts of the world. The unique seminar, crafted and compered by Chandru, was well attended by several of CAV's contemporaries and students who would all cherish it for a long time.

Again, the Dr Leslie C Coleman memorial national symposium on plant protection held in 2008 jointly organised by the Departments of Entomology and Plant Pathology was in great measure the brainchild of Chandru and a few others. The



symposium had a unique feature of depicting the life and work of Dr. Leslie Coleman through posters utilising photographs, letters, papers, specimens collected by him, anecdotes and the like and was carefully crafted and curated by Chandru. The participation of Leslie Coleman's daughter, Anne Widowson and son-in-law, Tom Widowson from Canada was another unique feature and they were bowled over by the admiration and love shown by us for Coleman. The idea of starting the Coleman lectures on his birthday, June 16, was mooted and it is being organised for the last seven years again under the auspices of the Departments of Entomology and Plant Pathology. Generating ideas in identifying a speaker, preparing the lecture book with a brief

life sketch of Coleman and the summary of the talk was always led by Chandru and the lecture series has been a grand success. The designing of a unique memento to be given to the

speaker, depicting the work of Coleman, was suggested by Chandru and Mallik and it has drawn the attention of one and all for its class and character.

During several discussions on the status of insect taxonomy in the country and the lack of a book on the taxonomy of Indian insects that an entomology student could turn to, Chandru often used to say, “Why not fill the gap by bringing out such a book?”. The preparations for the 75th birthday of CAV rekindled this idea in some of us and we thought it would be a fitting tribute to CAV’s great legacy to come out with a *festschrift* volume on this occasion.



[While] we were ... holding on to the rods [in the bus] for our safety, ... Chandru could be seen ...taking a nap, sandwiched between his standing co-passengers, oblivious to the swaying of the bus.

“It was with great trepidation that Ramani, Yeshwanth, Belavadi, Chandrashekara, Mallik, and Prashanth embarked on this venture” write the editors of the book in their acknowledgements. This apprehension and nervousness was put aside by the enthusiasm, encouragement, perseverance and the ‘we can do it’ attitude of Chandru in the several meetings we had during preparations for putting together the book. Our concern was also to find a reputed international publisher for the book and also whether our proposal would get the nod from any of them. Chandru was the one who was extremely optimistic about this and soon made us lose our edginess. We went full steam and sent our proposal to a few reputed publishers and find one we did. The publication of the book *Indian Insects: Diversity and Science* (CRC Press – Taylor & Francis group, Boca Raton, USA, 2020, 450 pp.) was wholeheartedly cheered by Chandru and he said, “This would be a landmark publication that would form the nucleus for all future books on Indian insect taxonomy.”



His emphasis on making field trips for the collection of insects compulsory for students prompted him to seek and allocate separate funds for such trips every year.

Chandru was bitten by the travel bug pretty early in his life. He continued to chase this passion till his health condition did not permit him to trek. I distinctly remember at least two such travelling/trekking episodes. Several of us decided to undertake an insect collection trip to Valparai in Anamalai hills. The bus journey from Pollachi to Valparai was a memorable one. The bus was packed, and we had to travel standing. The bus was travelling uphill and executing dangerous U-turns. We were all holding on to the rods for our safety, but an unfazed Chandru could be seen taking a nap, sandwiched between his standing co-passengers. We all had a good laugh on seeing this capacity of his grabbing forty winks even in such situations. He had great enthusiasm to take part in wild adventures. We all trekked up Ragihalli betta in

Bannerghatta and camped for a night. Sitting by the fire we chatted away till late in the night. However, we were up before dawn in the hope that we might get to see some animals in the waterholes that were visible from the hilltop. That we did not spot any animal is another story, but Chandru was very enthusiastic and his enthusiasm to participate in such adventures remained undiminished.

Another of Chandru's passions was to reach out to young minds to instil a sense of inquiry in them. He would always say to his students that it is particularly important to ask the right questions while pursuing any activity, be it research or any other activity, and this would entail a deep understanding of the field of study and an inquisitive mind. He would stress on the importance of analysing earlier studies with an open mind and addressing the issues with a sense of awe. He believed strongly in devising simple experiments. He subscribed to Newton's motto "Truth is ever to be found in simplicity, and not in the multiplicity and confusion of things". A pencil and a notepad are all that are needed rather than sophisticated instruments was his philosophy.

“

Reading books on different subjects was his forte and he would discuss these and would share his views with his colleagues over cups of coffee. The discussions would become so animated and argumentative that the ... number of cups of coffee consumed would be forgotten.

Chandru also passionately believed that no amount of beautifully detailed lectures and several hours spent studying insects in the laboratory would unravel the beauties of the insect world and help a student to fathom the depths of entomology, as compared to seeing and studying them in the field. His emphasis on making field trips for the collection of insects compulsory for students prompted him to seek and allocate separate funds for such trips every year. As a teacher his courses would always be filled with different aspects of scientific enquiry going beyond the realm of entomology.



Chandru (second from left), with colleagues and students on an insect collecting expedition

Soon after joining the department as Assistant Professor, he ventured into offering a course that was only in the syllabus books but had never been offered - Insect Behaviour. This course brought the innate abilities and teaching skills of Chandru to the fore and it turned out to be a sought-after course not only by entomology students but also students from other departments. He also offered Insect Ecology and Immature Insects courses and his style of teaching and ability to extract the best from his students won him several admirers.



Chandru was greatly pained to see the differently abled students struggling [to negotiate the steps] to reach the lecture halls and laboratories ... in the college. It was due to his [dogged efforts that] ... ramps with handrails were constructed in several buildings to [facilitate] access to the differently abled.

His course on Scientific Communication was always filled with anecdotes and stories of scientists who went on to make history and whose discoveries were purely fortuitous. He would always lament that most students have not cultivated reading habits and they do not even read the newspaper let alone novels and other books. Reading books on different subjects was his *forte* and he would discuss these and would share his views with his colleagues over cups of coffee. The discussions would become so animated and argumentative that the count of the number of cups of coffee consumed would be forgotten. Chandru was a coffee connoisseur.



As a member of the editorial board of *Current Science*, Chandru was instrumental in raising the quality of articles in several agricultural subjects In addition to identifying the right reviewers he worked over several nights to get the articles ready for publication using his exceptional editorial skills.

Chandru was greatly pained to see the differently abled students struggling to reach the lecture halls and laboratories by manoeuvring the steps in the college. It was due to his perseverance with the higher officials and the estate section that ramps with handrails were constructed in several buildings to enable access to the differently abled. This care and concern for the differently abled did not stop there. One day late in the evening when most staff and students had left for the day, Chandru along with Yamini brought a wheelchair and gifted it to the Director of Instruction (Agri.). Only the security guard on duty and my anonymous informant were present. Even to this day the source of the wheelchair is not known. The wheelchair is testimony to his great foresight and selfless aspiration to help the needy.



The wheelchair presented by Yamini and Chandru to UAS, GKVK before a ramp built at Chandru's instance in the College of Agriculture at GKVK. Photo: HIM Yeshwanth

As a member of the editorial board of *Current Science*, Chandru, through his acumen and knowledge was instrumental in raising the quality of articles in several agricultural subjects. In

addition to identifying the right reviewers he often worked over several nights to get the articles ready for publication using his exceptional editorial skills. During one of the last such endeavours he was given the responsibility of identifying a person to write the obituary of Dr.BR Subba Rao, an Indian born entomologist who worked at the Commonwealth Institute of Entomology, London. In addition to identifying Dr J Poorani, who wrote the obituary, he also provided her with valuable inputs that enabled her to give a more rounded picture of the multifaceted personality of Subba Rao. The obituary was published in Current Science (March 10, 2021). It is hard to believe that just the next month, on 25th April, 2021, Current Science would publish Chandru's obituary.

Dear Chandru, you have left a void that is hard to fill. Those for whom you were the “go to man”, will find no other to seek relief, solace and succour. We will miss you greatly, Chandru.



Chandru (face to camera), with colleagues [from right: KN Ganeshaiah, S Ramani, ARV Kumar(partially visible), and VV Belavadi] at the canopied table, UAS Cafeteria, GKVK. Photo: HM Yeshwanth

S Ramani, PhD, joined as a Scientist in ICAR through ARS in 1985 and retired as Project Coordinator (Honeybees & Pollinators), ICAR, New Delhi in 2011. Starting as a fellow student, he went on to become a long-time friend of Chandru.

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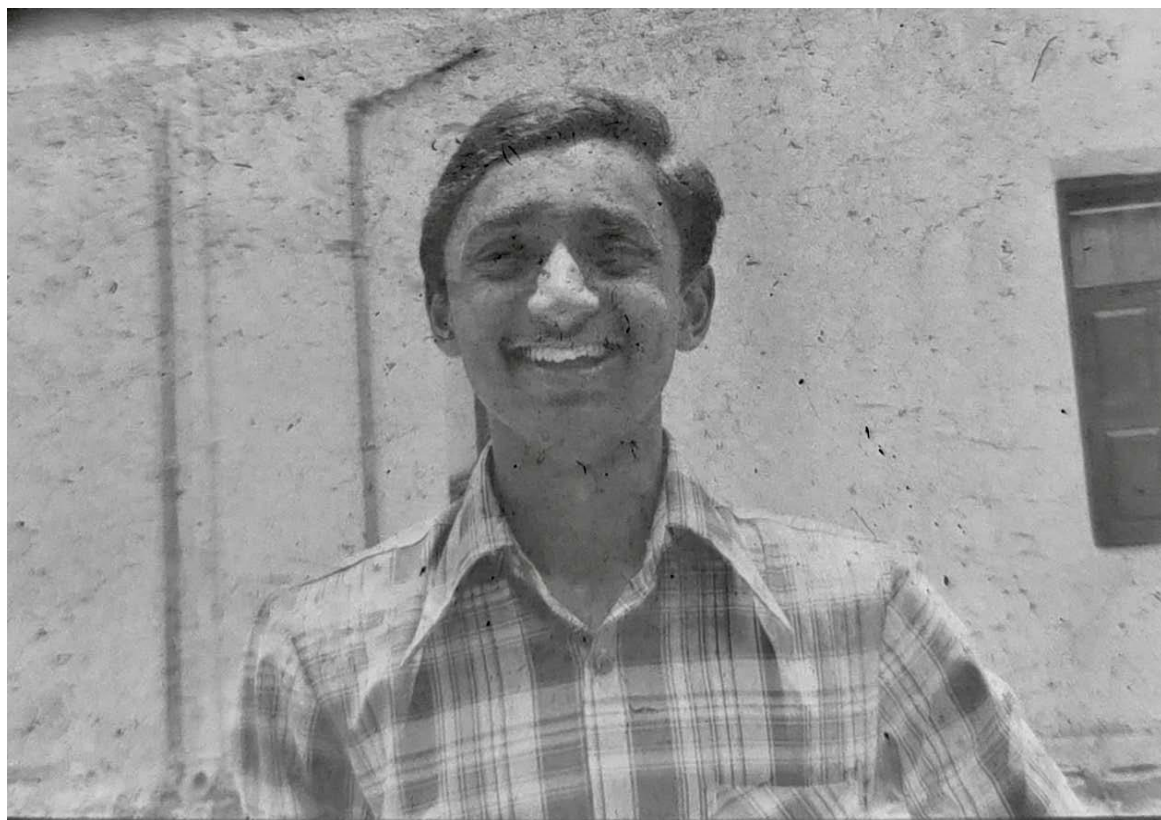
From Memories To Undying Stories

VV Belavadi

sketches: Poornima Belavadi



The blossoming of a friendship from the delights of trekking to the pleasures of photography and the awesome workings of an unconventional mind



*Early 1980, Chandru in front of the Department of Entomology, Hebbal as a freshman (photographed by the author with an Asahi Pentax 35 mm SLR camera on a day when they were both looking for nests of the solitary, bee-killer wasps, *Philanthus* sp.)*

Route E Bus Stop: NR Colony to Hebbal and back

It was 1979, the year I joined for Ph.D. and Chandru for his M.Sc. in Entomology at UAS, Bangalore. Those were the days when the University ran a fleet of buses to ferry both staff and students from various parts of the city to the campus at Hebbal, and back. Every day I boarded Route E, the bus that took me home to NR Colony. A few days into

my PhD I noticed a person whom I had seen a couple of times at the Department boarding the bus as well as alighting from it at my stops. He too must have observed this. It didn't take long for us to strike up a conversation and to then discover that we were both from the same department. Little did we realise that these conversations were the first tentative steps towards a more long lasting relationship.



Bannerghatta Circle... but where is Bannerghatta?

During the course of our conversation we realised that we had many interests in common. We both enjoyed trekking, collecting insects and photography. This soon led to our going on treks to collect insects and to take photographs. We began going on short trips (on most Sundays) to collect insects. We then learnt that Bannerghatta was ideal for collecting insects. So one Sunday we decided that Bannerghatta was to be our destination.

This was our first trip to Bannerghatta and it was to become memorable for not quite the right reasons. Neither of us had visited the place earlier, so we did not really know what to expect. We boarded a bus at Kalasipalyam, near KR Market. When we asked the bus conductor for tickets to Bannerghatta, he said that it would go only up to Bannerghatta Circle. We bought the



ticket assuming that Bannerghatta Circle would be within Bannerghatta, or at most a short walk would take us there. On getting off at Bannerghatta Circle we realised how mistaken we were. Looking around we could see nothing that resembled the Bannerghatta of our imagination. Enquiries with passers by revealed that we were near Bangalore Dairy, and Bannerghatta was a further 20 km away! It was still early. The time was only 7:30 am. We decided to wait for another bus. As luck would have it a private bus came within the next half hour. And soon we were at our chosen destination. The rest of the day went like a dream.

Science - a way of thinking

We visited Bannerghatta dozens of times after that, collecting insects, or just trekking in the forest. Meanwhile I had come to admire Chandru's inquisitiveness and his insatiable curiosity. His probing mind was forever attempting to fathom the science behind everything around us. On one of our Bannerghatta trips, we forgot our water bottles. After climbing a hill, we were both very thirsty. The only thought on my mind was the prospect of finding a stream to quench our thirst. Chandru spotted shallow pools of rain water that had collected in the circular hollows, some about a foot in diameter, in the rocks before us. I joked with Chandru, "How on earth are we going to drink water from these pools?". To my utter surprise he nonchalantly removed his ball pen from his pocket, divested it of its refill, and using the outer transparent casing as a 'straw' drank the water. With a sigh of relief I too followed suit, though it took me a while to recover fully from my astonishment at this ingenious solution to what I perceived to be

an intractable problem. His quick thinking and presence of mind to apply knowledge in creative ways was what made him stand out from the rest of us.

As we then sat there on the rock, he lapsed into silence. By now I had gained some familiarity with Chandru's ways. His silence indicated that his thoughts were taking him into uncharted waters. I had guessed right. Suddenly he shot a question at me, "These hollows in the rocks, there are so many of them, can you guess why?" I shook my head in the negative. He continued, "However they came to be, whether natural or man-made, they ought to be of use to birds or to some other animals". Just then, as though on cue, a pair of sparrows alighted in a pool, rolled in the water, shook themselves vigorously, and finally drank some water! I stared dumbfounded.



Years later I came across this line from Carl Sagan: "Science is a way of thinking, much more than it is a body of knowledge." In a flash all that happened on that rocky outcrop in Bannerghatta came vividly to my mind. That was living proof of Sagan's prescient observation.

Asahi Pentax

On those days when we did not go to Bannerghatta or to the new campus at GKV, to which we would all finally shift from Hebbal, we would wend our way to Lal-baugh or to Cubbon Park. These were the days we'd indulge ourselves photographing everything or anything from sceneries, to trees in bloom, lakes and even buildings with the Asahi Pentax SLR camera that my brother had gifted me, when I was a year into my PhD. Our fascination for this new gadget in our possession was boundless. We experimented with it in countless ways in our quest to learn and master the techniques of photography.

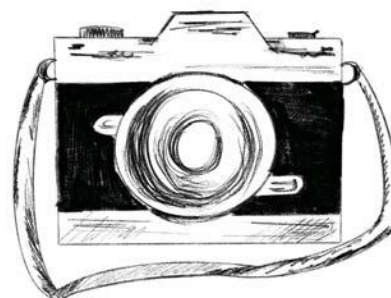


An early project that we embarked on was to photograph heritage buildings. One of my most cherished memories with Chandru was photographing the streets and buildings of Bangalore from the upper deck of a double-decker bus (Route No. 11). The experience was unforgettable. With the old 35 mm film camera in our possession, unlike the digital cameras of today, we could not see the results of our attempts at once to decide whether they were in or out of focus. The film rolls had to be given to a photo lab where the negatives were developed and the photographs printed. This took many days, only after which we could get to see the results of our labour. This was a dampener. As much as we enjoyed taking photographs, we detested the long periods of waiting – and we were not even participants in the process of developing and printing them.

This growing dissatisfaction took us down another alley. We temporarily converted the bathroom in my parent's house into a dark room and purchased a film developing unit (a black box with a spool inside to load the film, into which the developer is poured) and an enlarger for printing and enlarging our photographs. This was the era of black and white photography. Soon

with the honing of our skills we began enjoying developing and printing our own photographs. Only then did we realise what joy it really was and what we had been missing all this while.

While writing this piece the urge to recover some of those early photographs of ours was overwhelming. Feverishly I rummaged through my papers, but found none. If only I had then realised the ephemerality of all that this world has on offer, I'd have taken more care of those photographs. It's only memories that we are finally left with, and memories alone that we live by.



Mudigere

There was a period after my Ph.D. when we moved to different places, but we continued to keep in touch. When I was in Mudigere, Chandru and Kumar would bring almost every batch of M.Sc. students to Mudigere to give them an exposure to the Western Ghats and to encourage the students to collect insects from forests and plantations.

Later, when I finally moved to Bangalore, we were back to working together again. The first thing we did when we came to work, every morning, without fail was to have a cup of coffee together. When one of us missed that first cup of coffee for some reason, maybe a meeting or something else, we would all go for another round and another round after lunch and another round after that! Everybody in the department thinks that I am very fond of coffee. They do not know that it's not the coffee that I go for, but for the fascinating conversations, more stimulating than a mere cup of coffee. These conversations were often not about work, but about the various things that we had read. Chandru's ability to talk on an unbelievably diverse range of topics never ceased to amaze me.

With Chandru gone, it will be these conversations that I miss the most. Having spent over forty years together, which is more than half our lives, his memory has become all pervasive. These memories will become the stories that I'll narrate in the lectures and discussions in my classes, as also in my conversations with friends. He will continue to live forever through these innumerable stories.

Vasuki V Belavadi, PhD, retired as the Head, Department of Entomology, UAS, Bengaluru in 2018, after having taught in the University for three decades, two of which were spent in Mudigere. Prior to that he worked for three years in the Andaman islands as a scientist with the Indian Council of Agricultural Research. Post retirement he operated the project 'Diversity of solitary bees in southern India and their importance as pollinators', an area of concern in a world that is seeing the decimation of pollinators in the face of a warming planet. He was a close friend and colleague of Chandru for over four decades.

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The entomologist polymath of UAS

CA Viraktamath



Chandru mining information at the UAS library, GKV with Muralikrishna, SRF looking on. Photo: R.Revanna

Dr K. Chandrashekara, was an extremely lovable person. His warm smile was not reserved for only those whom he knew; it was there for strangers too, in short for all those who came seeking him. His affability extended to people across the social spectrum, from the menial worker in the university or elsewhere, to the head of an institution or even a scientist of international repute on a visit to the department. With his wide reading, not confined to the sciences – for his familiarity with contemporary happenings extended far beyond the fields of ecology, behaviour and evolutionary biology to

the social sciences and literature – he could converse knowledgeably and with ease on a range of subjects with people from all walks of life.



One of his several dreams, was the management of the very serious pest of pigeon pea, the pod borer *Helicoverpa armigera*, by installing colonies of his favourite wasp, *Ropalidia marginata* in the field.

To my mind, the distinguished lineage at the Department of Entomology, UAS, Bengaluru extends all the way from LC Coleman since its inception to Chandrashekara and his contemporaries in current times. What distinguishes Chandrashekara and his peers from their predecessors on the faculty is their strong grounding in molecular biology, biological statistics, niche modelling, etc. It was in this vein that Chandrashekara as part of a research team including KN Ganeshaiah, R Uma Shaanker and others modelled the spread of the sugarcane woolly aphid, which had appeared as a serious pest of sugarcane in parts of India. Utilising two computational approaches – GARP (Genetic Algorithm for Rule Set Prediction) and DIVA-GIS (Data-Interpolating Variational Analysis – Geographic Information System) – they predicted the possible spread of the aphid which had begun making inroads into southern India. With their analysis indicating concordance of the two approaches they predicted that the pest was not likely to spread to designated sugarcane growing areas of the southern Indian states. Though the aphid continues to persist in pockets, it has not spread to all the sugarcane areas in S. India, largely in keeping with the results of the study.

Dr Chandrashekara's contribution to the Bannerghatta Butterfly Park (developed through financial support from National Bio-Resource Development Board (NBDB) and the Department of Biotechnology, through a tripartite project including the University of Agricultural Sciences, Bangalore and the Karnataka Forest Department) is immense. His knowledge of the biology and ecology of butterflies helped him discover and document host plants for breeding more than 100 species of south Indian butterflies before making a final choice of species for release in the butterfly enclosure. He was actively involved in designing the park, advising the engineers on the kind of material to be used, including even the design of the drains, in addition to planning year-round production of host plants making them continuously available to ensure the presence of different species of butterflies in the park at all times of the year. In the initial stages, he personally supervised all aspects of park maintenance, and made sure that all glitches were overcome and the park functioned smoothly.



Students were encouraged to think independently and to develop their own ideas.

'One of his several dreams, was the management of the very serious pest of pigeon pea, the pod borer *Helicoverpa armigera*, by installing colonies of his favourite wasp, *Ropalidia*

marginata in the field. With the assistance of his post graduate students he devised ingenious experiments to determine the number of colonies to be set up, methods to protect the colonies in the crop field and the timing of their release. This however could not be put into practise in the farmer's fields as the introduction of Bt cotton saw a sharp decline in pod borer populations from that of a serious pest to one of relative insignificance.

Dr Chandrashekara taught three courses for many years in the department. They were insect ecology, insect behaviour and immature insects. Disenchanted with the manner in which courses were being offered he initiated novel methods of teaching involving greater student participation. The teaching was informal with greater student-teacher interaction through discussions initiated by him rather than a series of lectures in which the students were passive recipients. 'Students were encouraged to think independently and to develop their own ideas. Although initially disconcerted, his infectious enthusiasm and discursive practices soon caught on and inspired the students to become zealous participants in this new learning environment. So popular did these courses become that students from other departments sought to take his courses in addition to those from the department of entomology.

He developed and maintained very cordial relationships with the faculty of other Institutions like the National Centre for Biological Sciences (NCBS), Indian Institute of Science (IISc) and the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR). While he interacted with the faculty and students in these institutions, he also helped students from the entomology department at UAS to gain access to the facilities available at these institutes. His extremely witty communication skills were put to impressive use whenever the progress of the institution was to be presented to visiting dignitaries.

His dedication to hard work was often challenged by his failing health. In spite of this, he attended office, took classes and participated in all necessary meetings with unfailing regularity. His fighting spirit won over the ailment that kept dogging him at all times, till finally he succumbed and bid farewell to us on April 3, 2021. He has left behind a large number of highly inspired and motivated students working today in different parts of the country and also occupying high positions, as well as a large number of friends and colleagues who cherish his memory. His impish smile remains forever fresh in the memories of all those who interacted with him, and I am no exception. Even now, I cannot, but feel his presence, working at his computer, whenever I pass by his chamber.

CA Viraktamath, PhD, *taught entomology throughout a long, distinguished career at the UAS, at both its campuses in Bengaluru and Dharwad, and retired as a Professor in 2004. Chandru was a student of his during his undergraduate and postgraduate programmes. A taxonomist of international repute Viraktamath specialised on the taxonomy of leafhoppers continuing his taxonomic work even after retirement. His contributions to the taxonomy of Indian leafhoppers remains unparalleled in independent India.*

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The Chandru I knew



N Sigamani

This happened sometime in 2008. One cool evening (yes, evenings were really cool those days), I had taken some of my out-of-town relatives to Vidhana Soudha, to show off to them the place where our Government works. Or, doesn't, according to an individual's point of view. I had parked my car before VS (yes, we could, those days). While my relatives, in total awe of the marvellous stone building before them, were clicking photos, my phone rang. It was from an unknown number.

"Hello," I said.

"Hello, *Enri neevu eethara gaadi odstha idheera, nammage complaint bandide*" the caller started abusing me, in a gruff, authoritarian voice.

"Hello, *yaaru beku nimage?*" I asked, thinking it was a wrong call.

"Hello, *nimma gaadi number..... thane?*" the caller asked.

"*Havdu,*" I accepted.

"*Nannage complaint bandidhe, neevu rash aagi gadi odiskondur bandhidirenthu. Banni station ge.*" The caller ordered me rudely.

"*Neevu yaaru?*" I asked, annoyed because my poor vehicle had been so overloaded above its permissible limits with my relatives, that it had barely managed to crawl on the road, much to the annoyance of my fellow impatient Bangaloreans.

"*Naan Yaara? Ri, Naanu Sub Inspector Krishnappa. Bandu Cubbon Park Police Station nalli fine katkondur hogi,*" the caller demanded.

"*Saar, Naanu gaadhi rash aagi odsillila Saar. Neevu bere yaavudhu gaadi na confuse maad kondirubeku.*" I argued.

"*Ri, Ivaagale neevu station ge barthira, athva alli Circle nalli iruva police constablege phone madi nimma gaadi na seize maadla?*" the caller threatened.

There was indeed a cop at the Vidhana Soudha circle, monitoring the traffic, and I was wondering how to get out of this jam. Meanwhile my relatives, having feasted their eyes on VS, wanted to feast on the famous Bangalore Masala Dosa at Hotel Paraag (it's gone now, as are many of Bangalore's other landmarks). I didn't want to lose face or vehicle before my relatives. Not that either of us commanded much respect from them.

"Hello, *en madtha idhira? Bartheera athva,..*" The caller again threatened.

"*Saar, nan jothe nan nentrugallu idhare. Innondhu sari thapphu madalla, Saar,*" I pleaded, trying to wriggle out of the embarrassing situation, with the typical Bengalurean "Swalpa-adjust-madukolli" excuse.

"*Aaithu, innondhu saari ee thara madu barudu, Siga, Gotthaitha?*" The caller softened down his tone.

Thank God, I thought, immensely relieved. Then it struck me. How did SI Krishnappa know my nickname, known only to my close friends?

"Hey, Siga, it is Chandru here," the caller laughed at my apparent discomfiture, "*Naanu mathe Yamini road nalli drive maad kondu hogthairuvaga nimmane nodidhvi. summane thamashege regsana antha phone madidhe. Henge nijavagullu bhaya ayithallva?*"

"Chandru, you nearly gave me a heart attack," I confessed.

That was vintage Chandru. Always joking, never afraid to pull the leg of his friends. There was never a moment of dullness whenever he and Yamini were around, as Yamini matched Chandru's wit and wickedness.

How I wish I had given him more occasions to rag me.



Chandru, Uma, Girija, Ganeshaiyah, Veena and Yamini at Parambikulam, 1990

I had not studied with Chandru in the Hebbal Campus but I was introduced to him because we both were friends with Uma and Ganeshaiah. If I recollect correctly (with concessions being made to my fading memory), I had met Chandru and Yamini for the first time in Parambikulam, in 1990, when they joined us along with their daughter Namitha, on a trek. They had come to Coimbatore that early morning from Bangalore and had taken another bus to meet us at Parambikulam. I remember how he described with awe the scene at Coimbatore bus station at 5 am.

“Can you believe it? You could eat hot idli vada at 5am at the bus stand. The tea shops were full of people. There is hustle and bustle and everybody is either coming or going. Opposite the bus stand, the barber shops were open, and people were getting themselves shaved! At this unearthly hour. Don’t these people ever sleep?”. As observant as ever, he never missed anything, least of all, while watching the people around him.



From Right to Left: Chandru, Yamini, Ganeshaiah, me with Namitha, Hegde, Veena and forest guides, at Parambikulam

He was a keen observer, maybe because of his scientific background. But unlike the regular scientist, he had his eyes open for the other non-scientific scenery too. He was an avid outdoor person, look at his green hikers shoes in the photo. He was the only other person apart from me who had ever worn those kinds of shoes. Only crazy trekkers wore those shoes, those days.

Also note the camera he carried. He was always on the lookout for the new. He had come with Yamini and Namitha, all the way from Bangalore, to join us on the trek along the hillsides of Parambikulam. Yamini was an equally eager trekker. His enthusiasm was indeed contagious.

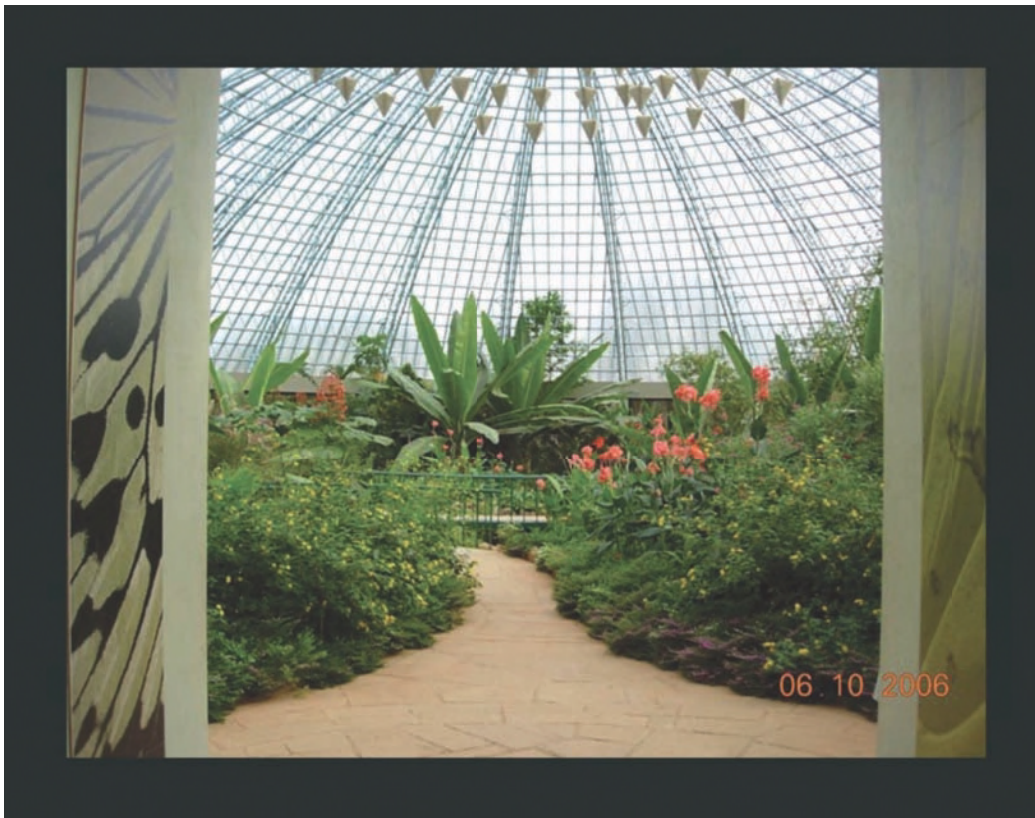
I interacted again with him in 2004 when I was developing the Butterfly Garden at Bannerghatta Park. Honestly, I thought that it was just another landscaping project for me. But Chandru changed all that. He had designed a lab in the Butterfly Park, the first of its kind in India, where butterfly eggs were collected from the wild and hatched. The larvae were reared and when the butterflies emerged, they were let inside the dome. The only other lab of this kind then, was in Singapore.

This was truly a revolutionary idea. He interacted with me actively in the landscape concept, pathways and stream design. He suggested the planting layout and methods by which we could make the butterflies feel at home inside the dome shaped covered park (which itself is supposed to mimic butterfly eggs). The result was that I fell in love with the concept of designing gardens specifically to attract butterflies. I frequently interacted with him on this project and he helped me in the host plants selection and sourcing. With his encouragement, I was able to later successfully plant and commission exclusive Butterfly parks in Software and Industrial campuses in Bangalore and other places.



Butterfly larvae rearing lab at the Butterfly Park at Bannerghatta National Park.

I also started to consciously include plants and trees to attract butterflies in my landscape projects. Truly, Chandru was the inspiration to me and I am forever grateful to him. While searching for some papers for this article, I came across his handwritten note to me dated 2005, suggesting some new plant species for the Bannerghatta Butterfly Park. Reading it was a very moving moment for me. I am touched, honoured and grateful that his inspiration has made me a much better landscape designer.



The unique Butterfly Park at Bannerghatta National Park



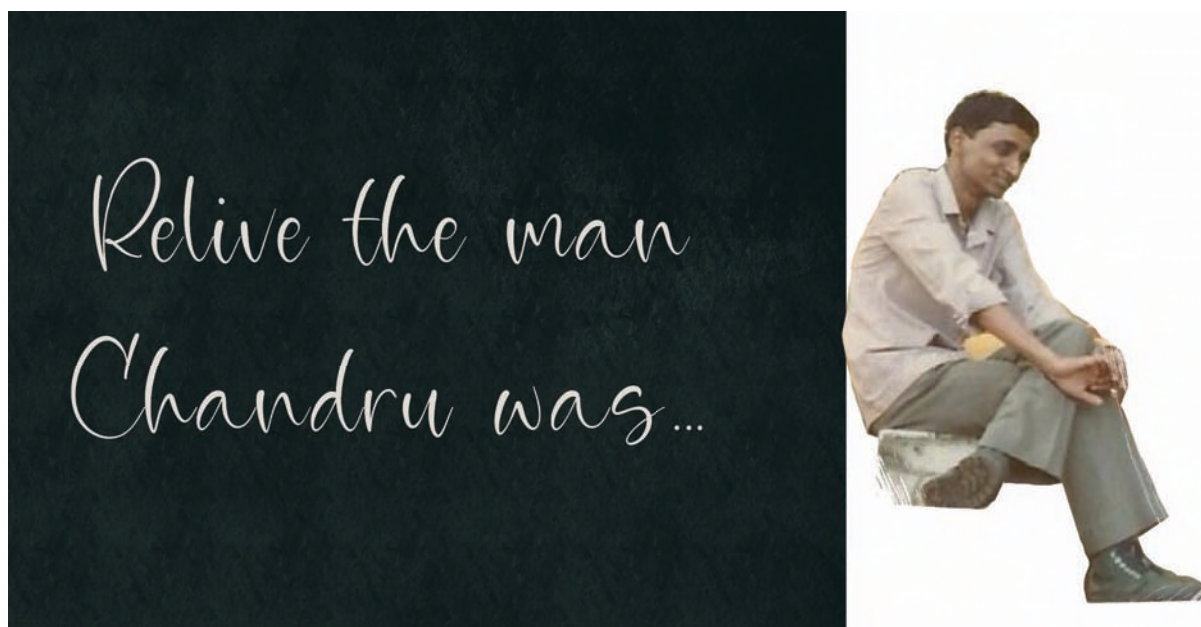
Chandru's inspiration will live on, as youngsters are enthralled by the close proximity of the butterflies in the Bannerghatta Butterfly park, which would never have been possible before. One of them is my daughter Krupa, who had visited the park and fell in love with the butterflies, so close at hand, literally. Thanks to you Chandru, for the motivation that will be forever, for many more Krupas to come.

After the Butterfly Park project in Bannerghatta, I often met Chandru and Yamini in our friends' circle.

By late 2019, I was very actively interacting with Chandru on how to include ideas for improving the general biodiversity, in my landscape projects. In that regard, I had many meetings and meaningful discussions (and arguments) with him, Ganeshaiah and Uma at the GKVK campus. Later, Chandru and Belavadi came and had a preliminary discussion with the VP of Bangalore International Airport Landscape Department, to study the possibility of improving the general Biodiversity in the airport landscapes. We had great plans for this exciting idea. But, in early 2020, our normal lives went haywire because of the first wave of the pandemic and we could not take it up further. Though we did not meet again for this project, in this connection, he shared with me the draft presentation that he had made for the BioPark and Arboretum at Science City, Gauribidanur. He wanted me to explore the possibility of initiating a similar project at the airport.

As my way of honoring him, I will make it happen.

It gives me great pleasure to share some never before seen photos of Chandru and Yamini, from my personal collection garnered over the years. Enjoy them.





Jagannath, Uma, Suresh, Chandru and Kumar during happier times



During an overnight stay on the banks of Sangam (note the fire in the background to keep away the marauding elephants)



Breakfast on the banks of Sangam, the next morning. No elephants came during the previous night



Chandru and Yamini at their best, along with Veena and Mythily at a party



With friends at Belavadi's residence



Mythily, Chandru, Yamini and a guest at a party, at a friend's house



*Those were the days, my friends, we thought they would never end...
During the Kemmangundi trip.*



Listening to Uma's lecture, enroute to Kemmangundi



*Ganeshiah, Suresh, Yamini, Karthik, Chandru, Uma and Belavadi
During the trip to Kemmangundi*



At our regular adda- Ganeshaiah and Veena's residence, circa 2016



At Punya's wedding



At CK Suresh and Jaya's residence

Nadana Sigamani did his MSc in Plant Breeding and Genetics from UAS (B) and is now into designing snazzy environment friendly landscapes through Hariyalee Landscapes, Bangalore, whose clientele include Bangalore International Airport, L & T, Wipro, Embassy Group and Vaswani Group, Bangalore. He and his wife Girija met Chandru and Yamini through common friends and went on to become their close friends and admirers.

Email: sigasmail@gmail.com

Alvida...

Doc Saab ... Alvida

GP Brahmaprakash



Chandru was one year junior to me in college. He joined UAS Bangalore in 1975 to pursue B.Sc. (Agri). His was the first batch of UG students at GKVK to inaugurate the campus, pioneers indeed! There was however a twist here; he belonged to what was called the 'Minister Batch', consisting of an atypical batch of nearly thirty boys, who joined about a trimester late. They were a boisterous, loud and a naughty group of students then; later turning out to be clever, creative and innovative. The trimester system of education at UAS with five examinations in every course and an unannounced quiz to top it all, made the difference. These dudes also benefited from condensed courses, designed to enable completion of their degrees along with the regular batch. Quite a few of them had illustrious careers in the University as academicians. Even now they take pride in identifying themselves as from the 'Minister Batch'. Chandru, who chose the less trodden path, was from this unique batch. Later he went on to do his M.Sc. in Entomology (UASB) and Ph.D. from IISc, Bangalore.

He was associated with my batch in the activities of CCSS - Constructive and Cultural Service Society. This society consisted of a group of like-minded people interested in music and culture. Many talks were organized under the auspices of the CCSS, which opened our horizons. I met Chandru again in 1986 while he was doing his research for his Ph.D. at IISc. Around this time, I was working in the Metallurgy Department at IISc. We would often run into each other in the cafeteria, which was just beside the Metallurgy Laboratory, as we were both connoisseurs of coffee.

University of Agricultural Sciences
GKVK, Bengaluru - 560 065

Office of the Dean (Post-Graduate Studies)

Announces an exciting new competition for bright young students to encourage entrepreneurship

Proposals are invited for Innovative New Technologies for
'START-UPS in agriculture and allied sectors'

- All the PG and UG students of UAS, Bengaluru are eligible.
- Participation open to teams comprising 2 to 4 members plus a Faculty mentor
- Teams should submit a concept note not exceeding 150 word by **21 May 2018**
- Start-up ideas with inter-disciplinary approach are encouraged
- START-UP proposals can be in private or public-private sector mode.
- The concept for Start-up can be in any area of agriculture and allied sectors
- The teams shall present their ideas before an independent jury on **30 May 2018**
- Top two concepts in both UG and PG will be awarded

Soft copies of the concept note may be emailed to any one of the following
sbrahma@gmail.com
kchandra58@gmail.com

Poster created and designed for the first time by Chandru and Brahmaprakash calling for proposals of innovative agricultural technologies. This competition was initiated by them in 2017

After we joined the university as faculty there were many occasions when Chandru and I would work together on committees, especially for the Youth Festivals at the University. We served on committees at different levels, right from committees for college and university selections to Inter-University committees to conduct the Youth Festival. We worked together in bringing out a daily bulletin containing the highlights of each day's events at the Inter-University cultural and sports festivals. Later, towards the end of our service we were involved in conducting a unique competition for students in identifying\encouraging the entrepreneurship spirit. We were also associated in bringing out the annual students' magazine for many years. Chandru was

responsible for bringing about a major change in the layout of this magazine to its current attractive format. He encouraged students' participation in editorial decisions so that the magazine would reflect the ideas and opinions of the student community. We were on several of each other's postgraduate students' advisory committees. Chandru's contributions in all these were significant and prominent.



The twenty-first century brought us together as colleagues in the All India Coordinated Research Project

(AICRP), Chickpea. He was an entomologist while I was a microbiologist in this programme. Our first task was the preparation of the report for the Quinquennial Review Team (QRT) and organizing the QRT meeting at the Bangalore centre. During our tours in connection with the AICRP technical meetings we would plan and visit places of interest in the vicinity of the venue of each meeting. Chandru, being fluent in Bhojpuri, was our spokesperson North of the Vindhyas. He used to take an active part in the planning and execution of all these excursions.

Chickpea is a rabi season crop which grows well in black soil, as a result all the trials were conducted at the Zonal Agricultural Research Station (ZARS), Hiriya. During the cropping season we used to travel frequently to Hiriya. The travelling time was used for discussions on all and sundry topics. Annigeri-1 had been the ruling variety in chickpea for a long time; we in the scheme, including Chandru and



others, were successful in releasing four varieties of chickpea for Karnataka including a bold seeded variety which was not available before.

During one such trip I remember Chandru extolling the virtues of selecting the L-2 quotation in a tendering process. Usually in a tender, the L-1 quotation, being the lowest, is selected which may be amenable for manipulation. Apparently, if the tendering process is tweaked to select the L-2 quotation (the second lowest quotation) it is exceedingly difficult for anyone to manipulate it further.

Chandru loved reading books. He was passionate about non-fiction and had a large collection of books in his library. I borrowed several from him for reading. He never refrained from expressing his opinion and had a logical way of putting forth his argument in his own eloquent and inimitable way. I have benefitted from his wise counsel on many delicate issues and the erstwhile scheme heads also valued his advice.

Chandru and I share a common bond. My native place is Gudibanda in Chikkaballapur district and incidentally Chandru too hails from the same place, which is his mother's native place. He always used to converse in Telugu with his mother, Telugu being his mother tongue literally! Apparently for his son Karthik also, the medium of conversation with his mother (Ms.Yamini) is Telugu.

He was a just, good, honest and friendly person, a great human being, loved his family and friends. Ajatashatru is used to denote Yudhishtira of Mahabharatha, and like him, Chandru was an Ajatashatru – one with no enemies as he had a keen sense of fair play. In the passing away of Chandru I have lost a great friend, which is an enormous loss to me and a greater loss to the entomology fraternity as they have lost an admired teacher, and a wonderful scientist.

GP BrahmaPrakash, PhD, was on the Agricultural Microbiology faculty of the University of Agricultural Sciences, Bangalore for about a score and ten years. He worked on pesticide-microflora interactions in soil for his doctoral dissertation under the guidance of Dr. N. Sethunathan at CRRRI (now NRRI), Cuttack. Later his research focused on the extraction of metals from lean grade copper ores employing autotrophic bacteria at the Indian Institute of Science, Bangalore. At UAS, Bangalore he pursued research on legume- Rhizobium symbiosis and pioneered the standardization of liquid inoculant formulations. He taught soil microbiology and allied courses to both UG and PG students, and guided 22 M.Sc. students and 11 Ph.D. scholars in Agricultural Microbiology. He took a keen interest in extra-curricular cultural activities and participated in all these activities at the university till his superannuation in 2019. Email: gpbrahma@gmail.com

Steering Thoughts



L Shyamal

Little things are what matter



Tombstone of R. Buckminster Fuller (Mount Auburn Cemetery, Cambridge, Massachusetts)

Photograph: brainpickings.org

The epitaph of Buckminster Fuller, famous for the geodesic dome, has a cryptic line “*Call me trim tab.*” A trim tab was a small movable strip, originally used on the tip of a ship’s rudder that acted like a miniature rudder for the main rudder, making it much easier to turn the main rudder. Fuller explained it in an interview:

“Something hit me very hard once, thinking about what one little man could do. Think of the Queen Mary—the whole ship goes by and then comes the rudder. And there's a tiny thing at the edge of the rudder called a trim tab.

It's a miniature rudder. Just moving the little trim tab builds a low pressure that pulls the rudder around. Takes almost no effort at all. So I said that the little individual can be a trim tab. Society

thinks it's going right by you, that it's left you altogether. But if you're doing dynamic things mentally, the fact is that you can just put your foot out like that and the whole big ship of state is going to go. So I said, call me Trim Tab".

Chandru fits the trim tab metaphor, a little selective force on thought processes for those around him who cared to engage. He had a way of drilling down, breaking down linguistic obfuscation, asking questions, identifying hidden assumptions, forcing a closer or even a second look at just about anything. Nothing was to be taken for granted, or as closed and obvious, and most certainly not because something was received from authority. I suppose it was clear to him that this constant need to question things and reconstruct ideas from their foundations was what made *living* faculty members a necessity in a university, otherwise everything could just be found in books right? If they weren't already written down, they could perhaps be written down into a book? No, Chandru believed that much of what we know has layers of uncertainty and part of knowing was also to understand the uncertainties, and to understand ignorance.

I met Chandru in person for the last time on 11 January 2020 at the wedding reception of Professor Gadagkar's son. I always knew that his medical condition made him extremely vulnerable to COVID-19 and from its arrival, I made it a point to limit communication with him mostly over the internet. He too had been careful, he mentioned quarantines for new books arriving at his home. I was therefore a bit surprised when I heard that he had proposed a little physical meeting to discuss Dr Mallik's draft on the life of Leslie Coleman. Sadly that did not happen. On April 5th, I went to attend the condolence meeting at the entomology department instead. I had nothing to say and could imagine Chandru's voice saying - what is the point of singing paeans to a dead person when one cannot heed or listen to the living? He tried to change the people around him, the university that employed him, and some higher powers on Twitter - in exponentially decreasing order of effectiveness. Much of Chandru's methods of thinking involved standard logic and understanding fallacies, but knowing principles is very different from embodying them. His self-description on Twitter said it all: "*Entomologist with a penchant for debate and a knack for logic and reason who is just coming to grips with technology!*"

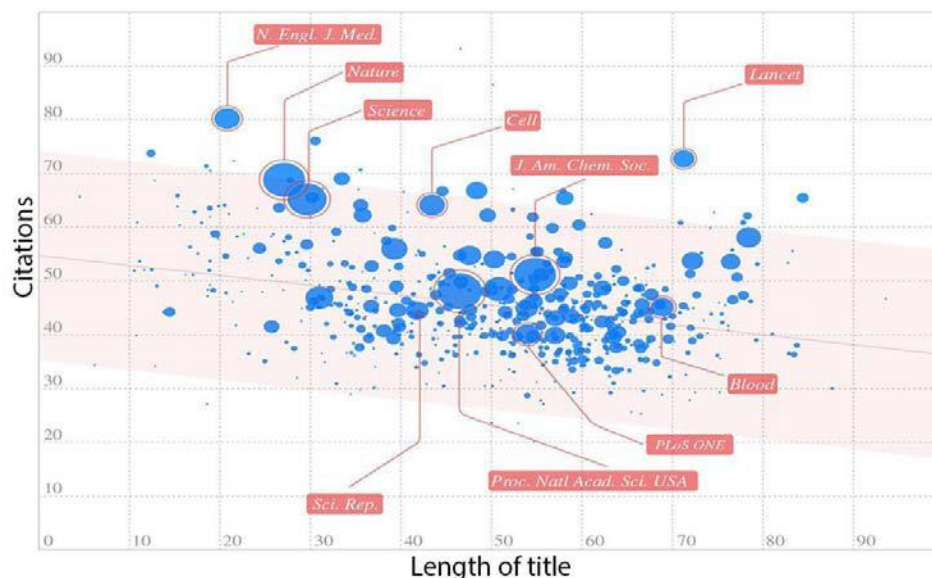
The value of intellectual freedom was foremost for Chandru. For him, the biases of a person did not matter, if there was something wrong in the position of another person, it had to be identifiable without getting emotional or resorting to *ad hominem* attacks. I remember an instance when "cancel culture" affected a colleague's proposed talk. Chandru was clear that regardless of everything else, any original views deserved to be listened to, carefully analyzed and critiqued. I think his position was that nothing stupid could be maintained for long if sufficient people gave thought to it, and that a democratic approach would invariably lead towards good sense. The corollary was that for stupidity to persist, it required authoritarianism. Intellectual honesty and integrity were other important values for him. Much of his effort could be seen as an examination of values. This went for all, whether it was students giving their seminars, his colleagues, or political leaders on Twitter. Sadly, the last

category did not have the ability to pick up the gauntlet. He joined Twitter in 2014, hopeful of the new politics, accepting good faith in the vibrant Indian democracy, and an examination of his tweet history shows a shift to despondency with the crushing of free expression and increasing signs of fascism.

Chandru was always careful to separate subject, author, and underlying philosophy and not let judgements on one be affected by judgements on another. He was pragmatic and willing to change his position but careful about brushing off any ideas. The phrase, never to throw the baby along with the bathwater, could express that philosophy despite the imported metaphors. Talking about metaphor, Chandru was a big fan of a wide exposure to fiction, art, prose, poetry and aesthetics. I can remember a discussion with mentions of Satish Dhawan, and Chandru held the idea that the best administrators were essentially the result of a liberal education, mostly from outside, but blinkered vision had been actively encouraged in Indian academia. Envisioning an ideal university was something that could animate him. One wishes that he had been granted more power, but since he never sought power, nor saw legitimate power in the upper echelons of the Indian university, his way of making an impact was to be a trim tab.

From all the evidence that I am able to put together, many universities in the country have clearly shown a meteoric decline in quality, particularly in leadership and vision. I was surprised by the kind of historic material that Chandru unearthed at the time of his retirement. A workshop on teaching and exploring ecology using agricultural ecosystems and the proceedings of a workshop on the design and use of examinations were two pamphlets that I digitized for him. This was nothing like the unimaginably corrupted state in institutions of higher learning and the country in current times. Corruption could only be sustained by keeping away democratic processes, and a liberal use of authority to silence dissent. Chandru considered life as an opportunity and for him, with no ambitions for power or prestige, there was nothing to lose in expressing his integrity and morality. I remember a time when he had just walked out of a meeting because they were not planning to write down the minutes. If they were not documenting the discussion for posterity, why should he waste his time on it, he asked. Like most of us, he found people reached positions of power in non-transparent and dubious ways. Yet, Chandru would offer advice as he would for anyone else. When authority wore uncomfortable western outfits and put on pompous airs, they had to be ridiculed but Chandru would still do his part. He could do great impressions of people and their mannerisms, particularly of the pompous, but making fun of the powerless was something he held as bullying, forbidden. It was this mix of anti-authoritarianism and kindness to the underdogs that endeared him to students.

Language, brevity, wit, and poetry were some other things that he enjoyed. We sometimes shared quotations. I remember the time and effort he took to reduce the wordiness of posters for the insect exhibition. As if in vindication, a tweet shared a study that showed that research papers with shorter titles were cited more.



<https://doi.org/10.1098/rsos.150266>

We often shared reading recommendations but the list that he shared with me says more about his appraisal of my interests rather than of his breadth of reading. In a recent tribute by Geetha Iyer, she mentioned a book that Chandru had recommended - *Ten Little Housemates* by Karl von Frisch. I had not read the book, and so I did and upon reaching the last chapter I found the key bits, the kinds of things that Chandru admired and lived by. Frisch notes that the book was not meant to be exhaustive and encyclopaedic but to show "that there is something wonderful about even the most detested and most despised of creatures". A celebration of the small and unsung, a celebration of exploration. It was not meant to be exhaustive or perfect. It was just a little push, a little challenge to your ways of thinking, a little guidance. A tiny trim tab inspired by tiny lives in a vast world.

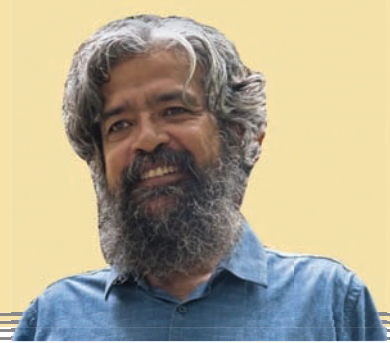
*There's nought so humble, nought so small,
But has a lesson for us all,
The self-same magic everywhere,
For eyes that see, and hearts that care,
Riddles abundant, near and far
From lowly flea to distant star.*

L Shyamal, is a former student of UAS;1994 batch BSc (Agriculture). He is also into natural history exploration and outdoors educational outreach. His voluminous and insightful contributions to the Wikipedia has earned him the appellation 'Wikipedist extraordinaire'. He was a student and he attended Chandru's entomology major class in 1994, but as a visitor to the CES, IISc at guest lectures in the 1980s both had seen each other there. He was in regular touch with Chandru.

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The Professor

S Vishwanath



The Gulmohar avenue, pathway to the discussion rooms, sans the glorious red blossoms of May.

Photograph: V V Belavadi

The one thing that I regret is that I have no photograph with him. The occasion simply did not arise.

We slipped into a friendship and camaraderie that was so unnoticeable that it did not call for mundane things like photographs. A small Trust had been created to help promising students with economic difficulties in the University, to complete their studies or their projects. I

was an Advisor to the funding agency to help fund the Trust. Prof. came along with other Trustees and made a presentation to the cause. The funds came and several students benefitted. I benefitted the most because I came in contact with a person who I would drop by for what the Bengalis call an 'adda', an open ended discussion session over coffee , usually standing at the canteen's steel umbrella clad tables, as far away from the door as possible because we had friends who smoked.



These conversations were my battery charger and I would go back enthused.

A project was running at GKVK for a Centre of Excellence for the use of Anthropogenic Liquid Waste as a fertilizer. I was part of the funding agency and because I stayed close by to the GKVK , I would walk in . The Gulmohar avenue would be my pathway as I walked in through a small gate to the rooms of discussion. In May it was simply glorious . After the usual chat with the students pursuing their Ph.D. and Professor Srinivasamurthy , their guide, I would walk into the entomology department , always pausing to read up the excellent posters and exhibits on display. If it was my lucky day , Prof . would be in his room chatting to some student or wrestling with his computer on a paper. The moment I came in, there would be a pause. A paper would be dug up and handed over. 'I was thinking about you when I was reading this' and then he would launch into a passionate description of the paper. Sometimes a book would be referred to, you must read this would be the exhortation. Then the usual request to the student, can you come back after half an hour. Legions of students would have cursed me for these untimely intrusions.

We would amble away to the canteen and using his Professorial prerogative a by-two coffee, less strong, would be got. Then we would drift to the outside tables and for the next half an hour I would be entertained to a wildly eclectic, data driven, referenced talk and set of ideas on matters arcane. Reluctantly Prof. would finish the coffee and then we would walk back together, for he would have a class or an appointment. These conversations were my battery charger and I would go back enthused.



Go well Prof. we will meet in the discussion room in the great beyond. Carl Sagan or Kenneth Anderson or Stephen J Gould will be taken out dusted and debated.

The days flew by, but there was **never** a week that we did not have one conversation at least. His health was always an issue. Laboured breathing while walking, a heart issue, surgery, recuperation, but he never tired of his readings and discussions.

Then he joined social media. Twitter was a favourite. His acerbic comments were a treat. Often one would get a DM on an interesting article or a book. The feeling was the same as when one entered his room. Excitement at a new theory, contestation with an idea, frustration with the bureaucracy.

We never called each other by name, we never had to. For me he was Prof. and the Gulmohar avenue will be a constant reminder of a friend and a friendship and what pursuit of knowledge is, what teaching is, what living life to the full is and what appreciating a good coffee is.

Go well Prof. we will meet in the discussion room in the great beyond. Carl Sagan or Kenneth Anderson or Stephen J Gould will be taken out dusted and debated.

S Vishwanath, *popularly known as the Zen rain-man, is an urban planner and water conservation expert who has been involved in many citizen-led rainwater harvesting and lake rejuvenation projects. In 2019 he launched 'A million recharge wells' initiative with the Mannu-Vaddars, a traditional well-digging community, to restore the vanishing open wells in Bengaluru. He lives in Bengaluru with Chitra Vishwanath, his architect wife.*

Email: zenrainman@gmail.com

He will be sorely missed

S Subramanya

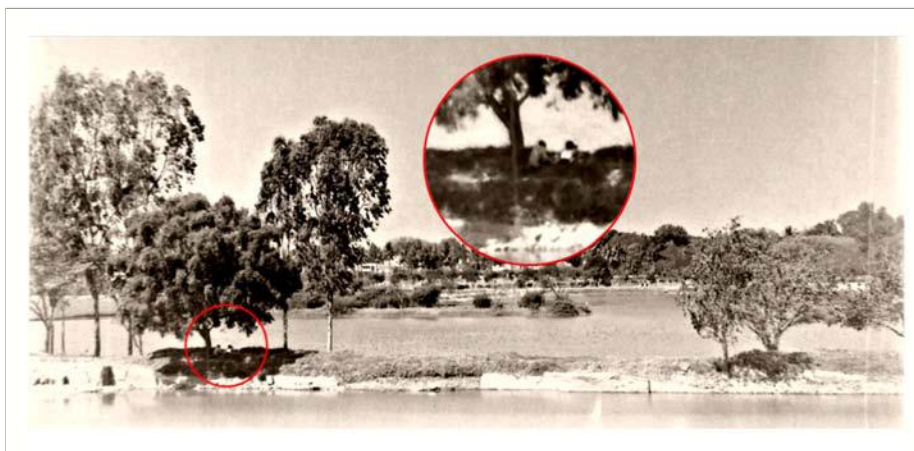


Chandru in class

I first came in contact with Chandru (Dr K Chandrashekara), during the first year of his M.Sc. in agricultural entomology at the University of Agricultural Sciences, Hebbal, Bangalore in 1979-80. I had volunteered to assist Prof CA Viraktamath in his Insect Anatomy course, lending a hand during the practical classes, where the students were required to dissect insects – ranging from a mosquito to a cockroach, besides bugs, bees and beetles, enabling them to take a peek into the way their internal organs were structured. The students had to dissect the digestive, reproductive and nervous systems, among others and understand the modifications between taxa and dwell on their significance: this entailed them remaining glued to their binocular microscopes for nearly three hours and they had to handle everything under it with the tip of a fine dissection needle made from the thinnest ‘insect micro-pin’ available and a spring-loaded micro-scissors. While most students were relieved and glad when the three hours of this intense process came to an end, Chandru would linger on, to discuss insect form and function and this would often draw even Prof. Viraktamath into long discussions thus

making the handling of those practical classes that much harder for me! When we set out to dissect *Apis dorsata*, in one of the classes, Chandru disappeared for about 10 minutes and returned from the library with RE Snodgrass's 1956 book, *Anatomy of the Honey Bee* and asked, if we could dissect and observe all the major internal organs detailed in the book. Little did he know that Prof. Viraktamath had 'fed' us that very book, while I underwent that very course. That day, we stayed back, after the class, and spent three delightful hours in the evening, having fun exploring Snodgrass's book by sacrificing several more honey bees. Chandru never took his classes lightly.

This was also the time he learnt that a small motley group of us went out birdwatching, in different areas of Bangalore, on the first Sunday of every month. He readily joined us and even volunteered to be part of the group that was in the process of updating the 1972 Checklist of the Birds of Bangalore (to be released later by none-other than Dr Salim Ali himself at the Raman Research Institute) by making regular visits to several chosen areas, including Lalbagh, which was close to his house at Sajjan Rao Circle. Lalbagh in those days attracted many waterbirds. Besides the Osprey, Marsh Harrier and many others, it attracted around 2500 Garganeys, every winter. We would often hole-out at the narrow piece of land projecting into the lake, parallel to the Lalbagh bridge that bisects the lake, and spend many delightful hours watching them. As the males develop their bright breeding plumage towards the end of the season, they become a sight to behold. The males would develop a prominent broad white brow that curved down till the back of the head and would sport a metallic green speculum lined by broad white borders. By sitting under a few of the trees whose canopies leaned over the water, we were able observe the flock of these Garganeys from as close as 30 feet. It was here that Chandru pointed out that the Garganey males were behaving peculiarly and sure enough, they did. The *Handbook of Waterfowl Behaviour* by Paul Johnsgard, the first of his 100 books, a copy of which the UAS library held, led us to understand what the Garganey males were up to. The males would often stretch their necks, with the head held level; they would rise-up in the water, flap their wings, raise their partially folded wings and preen their undersides, showing the green speculum with broad white borders, and in the process, they would very often turn the backs of their heads towards the females.



Chandru (left, taking notes) and author (right, with binoculars) beneath tree, on narrow spit of land in lake in Lalbagh, Bangalore, studying the Garganeys (visible as hazy spots dotting the lake surface) on 2 March, 1980 . Photograph: MB Krishna

The most dramatic was the act of males folding their neck backwards till the head touched their backs. We found that these acts had all been named: 'burping, wing-flapping, preening-behind the wings, turning-back-of-the head and laying-the-head-back' displays: these were all standard courtship displays and we were pleasantly surprised to learn that our surmise was true - the Garganeys were indeed courting the females. It was quite a learning process for us and we opined that the males were trying to woo the females and pair-up, well before they embarked on their long return migration to their breeding grounds. We had agreed to undertake a more detailed study of this the following year, but it did not happen. We went our separate ways: I joined BNHS and went to work for Dr Salim Ali in one of his projects, while Chandru joined CES at IISc, a little later.



Male Garganey (Spatula querquedula) in brilliant breeding plumage that fascinated Chandru and me. Photograph: AK Raju

Chandru was always keen to step in and help when someone sought it. He did so twice for me: While, I had to travel to Bombay to attend my interview at BNHS, where I was interviewed by none other than Salim Ali himself, Chandru spent four full days observing a pair of red-necked falcons that were nesting on an 80-foot-tall Casuarina tree near my house in West-of-Chord road, Rajajinagar(<https://www.biodiversitylibrary.org>) that I was studying through their breeding season. It necessitated one to climb to a vantage point, a 30- foot-high sloping roof of a *choultry* 100 feet away, squat along the roof edge, almost looking like an outcast macaque, to observe the birds peering through a second-hand Russian made Super Zenith 6X30 binoculars, that was so kindly lent to us by Padmashree Zafar Futehally, at a time when binoculars were hard to come by and had to be sourced from abroad. During the period that Chandru kept his vigil, our house help who lived close by, remarked to my mother that there was a new 'alpha male' on the roof of the *choultry*, observing the falcons!

Later, when my new appointment required that I work at Point Calimere, at one of the BNHS field stations. Chandru single-handedly took up the responsibility of getting my M.Sc. thesis typed (there were no desktops those days), mend the typographic errors, get the thesis copies bound and submit the same to the Registrar's office at UAS, with everything in order. All I had done was to hand-over the final draft of the thesis along with all the appropriate pages duly signed. I have this uneasy feeling that I did not thank him enough for his generosity in investing his time and effort helping me out.



*West of Chord Road, Rajajinagar, Bangalore (1980).
Nesting site of Red-necked Falcons (*Falco chicquera*)
(nest location indicated by arrow on tree in foreground).
Photograph: JBNHS*



*Red-necked Falcons (male and female) that turned
Chandru and me into 'macaques'.
Photograph: Datta Pradhan*

Years later we were both employed at UAS, Bangalore as entomologists and had very many interactions and discussions on varied topics, in no way restricted to entomology and ornithology. In each and every one of them, Chandru had his own take on things and had a point of view to present. This made all those interactions and discussions that much more lively and stimulating. Quite often, the intensity of our discussions made us quite garrulous, not unlike that of a bunch of babblers. Being with him was unmitigated fun.

The students at the department of entomology dreaded the presence of Chandru during their departmental seminars and colloquiums. Chandru insisted that these two presentations be taken seriously by the students. He was the one who changed the format of the seminars and took them out of the closet, and turned them from being pure entomology presentations into 'any subject under the sun' topics to broaden the horizon of the presentations. He insisted that it was important for students to learn to track down exciting topics, structure their talks and present them in an interesting manner. While he readily appreciated good presentations, he was very critical of students who did not invest time and effort in preparing theirs. In this, he brought with him his own brand of euphemism, in delivering a well concealed 'punch' with the hint of a smirk, in a manner that did not hurt the students, but had the desired effect.

For over a decade, SC Chandrashekar (from the Dept. Plant Pathology) and I took up on ourselves the conduct of the Fine Arts Competition events (still-life, poster, collage, cartoon and rangoli) during the National- and Inter-University Agri-fests. Chandru was of the opinion that the students be provided a platform of a high standard to showcase their talents and skills and their efforts be evaluated impartially by professionals, rather than by some unqualified, incompetent university staff. Chandru took the matter to the Dean (Agriculture) to ensure that adequate funds be allocated to invite three professional artists from institutions like the Karnataka Chitrakala Parishath and KEN School of Art in Bangalore, to evaluate students' entries. This was just one of Chandru's efforts at genuine talent recognition.

From what was once a motley group of 20-30 individuals in the 1970s, the birdwatcher's group in Bangalore swelled to nearly 2000 by the end of the millennium. What used to be mere bird-walks in the 1970s, turned into more exploratory 'nature-walks' in the later years. There was always a section of birders who nurtured the desire to learn more. To help them get a greater exposure to the world of insects, I planned several 'Orientation Courses in Insect Taxonomy' by utilizing the world-class 'Insect Systematics' facility that Prof. Viraktamath, Mallik and a few others had built at GKV. Scheduled usually over the weekends, the two-day course exposed 20 novices, each time, to the world of insect ultra-structure, the use of dichotomous taxonomic keys and field explorations. Chandru made himself available during these two days to expose the participants to the fun of observing insects in the field, often down on the ground on all fours, and making sense of the teeming insect life there. If not for Chandru and others (Prof. Viraktamath, Mallik, Ramani, Belavadi and Yeshwanth), the course would have been devoid of fun to the birders.



Participants and faculty of the First Orientation Course on Insect Taxonomy held at the Department of Entomology, UAS, GKV, Bangalore in June, 2013 (Chandru, second from right)

I can go on delving into the recesses of my mind to recollect the difference Chandru made with his intellect and participation, but the fact remains that Chandru is no longer with us, and that is

something that is hard to come to terms with: I still live with this lingering feeling that I may run into him along the path between the Department of Entomology and the UAS Cafeteria at GKVK, as in the days gone by. That broad smile on his lean, 'young' face will sure stay on forever in my mind.

Chandru remained a good friend till he departed - without even saying goodbye: the pandemic never gave him a chance. He will be sorely missed.

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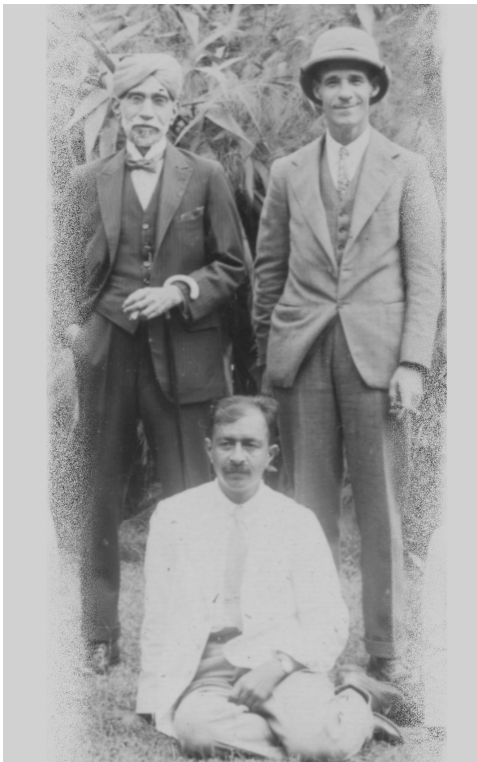
What's in a Name?



Cedric Satish Wesley

Similarities both physical and intellectual as a shape of things to come

Coleman. That's how I was introduced to him by a mutual friend. That's how he was generally called by his classmates. And that's how we senior graduate students in the Entomology Department generally knew him before our formal introductions. Many of us continued to call him Coleman or Chandru, often interchangeably in the same sentence. For those of you who do not know this tidbit, there is something telling about this nickname that was bestowed on him fondly by his friends, one which Chandru gamely accepted, or blissfully ignored.



*Dr. Leslie C. Coleman (Standing, right).
Photo courtesy: L Shyamal*



*Chandru (Kol-man).
Photo courtesy: Raghavendra Gadagkar*

Here is the origin of Chandru's nickname to the best of my understanding and recollection. Dr. Leslie Coleman (1878-1954) was the eminent entomologist who was not only involved in the establishment of the Department of Entomology in the University of Agricultural Sciences at Hebbal, Bangalore, but also in the establishment of the University itself. Dr. Coleman's academic leadership and knowledge and love of insects were legendary. Chandru seemed an avatar of Coleman to his friends, even resembling him, tall and lanky with sharp features. There were many photos of Dr. Coleman in the department and you may see for yourself the uncanny similarity in the accompanying picture of Dr. Coleman reproduced from Wikipedia. As puns are characteristic of nicknames, the 'Cole' served that part nicely as it is phonetically similar to 'kol' in Kannada, the word for stick and a common slang for tall and lanky people. Fond nicknames often capture the essence of a person that serves not simply as an identity but also as a prediction of the future obvious to friends. Chandru indeed turned out to be a Coleman, in his own way, exerting much influence and impact.

I first came to know Chandru intimately when the then-graduate students in the Entomology Department organized the first ever Insect Exhibition in Bangalore (as Bengaluru was then called), indeed in India, at the Vishweshwariah Museum. It would have been a tremendous challenge even for professional museum people. But a group of students lived and breathed "The Exhibition" for weeks. Chandru was an enthusiastic and eminent part of this group playing a critical role in every way, from choosing representative insects for display, designing their arrangement, transporting them safely (many were invaluable specimens), setting up the displays, to explaining the exhibits on the incredible diversity of insect life histories to visitors from all walks of life. The best times for us were to come later on each day after the exhibition closed, reminiscing the events of the day at a local bar. I don't remember Chandru taking beer or drinks, but he regaled us other drink-hards with animated reenactments of the highlights of the day, with his inimitable 'forget it, I say' to unpleasant events, and "bombat kannayya" to the enjoyable ones.

After Chandru moved on to IISc and I left for the US, our meetings were infrequent but nevertheless enjoyable. With Chandru at the table, over lunch in a restaurant or coffee in the UAS Cafeteria, loud talk amid raucous laughter were staple, whether the topic was insects,

birds, science, politics, personalities, current events in India or the US, philosophy, books, films, or culture. He particularly enjoyed comparing and contrasting the ways different societies, current and ancient, dealt with period or timeless issues. The breadth of his interest and command of knowledge can be gauged from this one brief email that he sent me not too long ago.



To me the most remarkable trait of Chandru is his sublime equanimity. The cheerful sparkle in his eyes, the infective smile, and the animated hand gestures were always there, even if they briefly faded when he recounted the downturns in his life, such as his bouts with health issues. His serene demeanor when telling me the most tragic event a parent could ever experience, the loss of a child, is indelibly etched in my mind. In one way it was poignant and in another incredible. His grief swung back and forth, from that of a loving parent to that of a true scientist, trying to accept the fact that this terrible thing had happened to him while simultaneously trying to understand how it could have happened and why.

Meeting Chandru, along with the coterie of ‘usual suspects’ from the Entomology Department, many of whom were involved in the original Insect Exhibition, was a fixture of my itinerary whenever I visited India. While such meetings might still happen in the future, they will never be the same because the intellectual sparkplug of the group, Chandru, will not be there. But I will always cherish the pleasure of knowing him and sharing his laughter whenever we were together. Although we did not get to talk much about his accomplishments (Chandru was never the one to brag) I now read from testimonials that he was not just an accomplished scientist, a mentor, and a teacher, but also a visionary academician. A Coleman indeed!

Chandru’s life was, in his words, “*bombat kannayya*”. I will sorely miss him.

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Dr Chandru

KD Prathapan



Ever considerate Chandru obliging his student while taking a breather from insect collection, employing both net and camera. Photo: R Revanna

Dr K Chandrashekara – ‘Chandru’ to friends and colleagues – was undoubtedly the sharpest and the most sagacious in the academic community at the University of Agricultural Sciences, Bengaluru. Conversations with Chandru on subjects as diverse as natural selection, dwindling taxonomic expertise in the country and the world or for that matter, history and politics were enlightening. He saw every phenomenon, observation and event with unusual clarity and foresight. Nothing that was happening around him was not grist to his mill.

I first met Chandru in the company of Dr ARV Kumar, when I joined the Department of Entomology as a student of systematics in September 1997. This ‘disparate-looking’ couple was the most ‘noisy’ in the Department. Whether at a seminar or a debate, the duo would be there with their witty but scholarly comments, making the discourse lively, informed and incisive.



Chandru ... understood [that] both the formation and development of academic institutions as well as their decline and decay [are] the result of the workings of underlying political processes ...

Chandru was a keen observer of politics, with a clear understanding of the interconnections between academia, politics and policies. He was not however involved in political activism nor was he a part of any political organization. I was fortunate to have had the opportunity to indulge in long conversations and arguments, on contemporary politics with him. He would have been a successful political columnist and commentator but for entomology. One of his text messages, prior to the Assembly Elections in Kerala in April, 2021 was typical: “Left should be back in power, otherwise I will stop believing in God”. Many of Chandru’s apprehensions, hopes and predictions, including the return of the Left in Kerala, have come true, though he is not with us to witness the turn of events, such as the turmoil in Lakshadweep.

His understanding of history was deep and unusual for a science academic, particularly in the Indian context, where scientists are expected to eschew politics and most in fact do so. Most of us consider the academic positions we hold as our prerogative and the institutions to which we are affiliated, as permanent and everlasting. Chandru however understood both the formation and development of academic institutions as well as their decline and decay as the result of the workings of underlying political processes, where institutions are mere superstructures built over the political foundation. Scientific institutions are neither privileged nor insulated from the larger politics of the society to which they belong. He rightly appreciated that the establishment of CSIR laboratories, Indian Council of Agricultural Research and the Indian Council of Medical Research are largely the result of the Nehruvian vision of a socialist model of development chosen by the political leadership, immediately after independence. These scientific institutions he knew had not originated from a vacuum. He often commented that it is the great political leadership of yore, that envisioned these great institutions.

Chandru approached academics with zeal and passion and criticized the system for being the hurdle in its advancement. He always reminded us that ensuring fairness and vigilance in faculty recruitment is the *sine qua non* of any academic institution. He was deeply concerned about corruption in academia in India, from research misconduct to the appointment of teachers and Vice Chancellors. Corruption and nepotism in the recruitment of members of the faculty he felt was the prime reason for declining standards in teaching and research in universities. He emphasized that academic freedom and scientific temperament were the core values that

should be driving the wheels of academia, and that the public university should be a niche for debate and dissent.



He always reminded us that ensuring fairness and vigilance in faculty recruitment is the *sine qua non* of any academic institution

Chandru had a natural aversion for bureaucracies and was deeply concerned at the possible incursion of the 'Administrative Services' into universities to replace and usurp the academic leadership of Universities and to run them at the behest of a partisan and myopic political leadership. He despised the word 'proper channel' and once refused to sign the attendance register for several days in a row, citing 'lack of time for the irrelevant'.

Chandru's forte was insect ecology, the principles of which he often applied to his fellow humans. He collaborated extensively with people outside the Department of Entomology, as he refused to be tied down to what he called 'pestology' or 'nozzle-cone entomology'. With his flair for the application of insect ecology and statistical techniques to pest problems he broadened our approach to pest management and was a spokesperson for scientific agriculture and pest management. He was against organic farming and what he thought were its fallacies. To dwell further on his contributions as an entomologist would be superfluous as Anindya Sinha and Uma Shaanker (*Current Science*, Vol. 120, No. 8, 25 April 2021, pages 1396 – 1398) have gone into it in great detail.



My work on leaf beetles was profoundly influenced by him. In the initial days I concentrated solely on the systematics of the group. He pointed out that my approach was mechanical and asked me to look at all aspects of the biology of leaf beetles.

Chandru was never interested in power or position. Yet he contributed immensely towards the development of the Department of Entomology and the University of Agricultural Sciences, by helping usher in many much-needed policy changes. The Department of Entomology garnered the DST funded FIST programme, due largely to the efforts of Chandru. The grants thus generated were used for modernizing the laboratories for teaching and research.

He was an inveterate reader. I first heard of books by Richard Dawkins and EO Wilson from him. He introduced me to bookstores in Bangalore. He was a regular visitor to the Premier Book Shop run by Mr TS Shanbhag who stocked science classics in his dingy show room which was always overflowing with books. Premier and Shanbhag have both been erased by the passage of time. Like them Chandru too has sadly made his untimely exit.

My work on leaf beetles was profoundly influenced by him. In the initial days I concentrated solely on the systematics of the group. He pointed out that my approach was mechanical and asked me to look at all aspects of the biology of leaf beetles. His advice helped me broaden my outlook and enrich my papers with a wealth of interesting and useful data going far beyond the mere description of species.



In the last few years ... we began to increasingly find ourselves in agreement as it began to become impossible to ignore the forces of gloom massing themselves on the horizon that we feared could soon engulf the country.

Students and colleagues in distress could, and often did, turn to Chandru as he was the most kind and intelligent on the faculty on whom one could fall back. I am indebted to him for his wise counsel for helping me tide over a period of intense stress in my life.

He was always candid in the expression of his opinions of individuals and events. When critical of a person he would never mince words, but did so with tact so that it never bruised the other. Frankness, truthfulness and integrity were the hall marks of his character.

Chandru was one of the reasons for me to visit Bangalore. Over the years we had settled into a pattern of agreeing to disagree on very many things. In the last few years however, we began to increasingly find ourselves in agreement as it began to become impossible to ignore the forces of gloom massing themselves on the horizon that we feared could soon engulf the country.

With the passing away of Chandru, I have lost a brilliant senior colleague, who could always be relied on for advice, help and solace.

KD Prathapan, PhD, is in the Department of Entomology, Kerala Agricultural University, Vellayani, Trivandrum. He obtained his Ph.D. from UAS, Bangalore and has enjoyed the company of Dr Chandrashekara since September, 1997, as a student first and then as a professional colleague. He frequents Bangalore to catch up with friends, with Chandru being uppermost in his list.

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Everlasting impressions

Geetha Iyer



*Chandru armed with his insect net on an insect collecting expedition to the Kelakalige forest near Shringeri, Karnataka.
Photo: R Revanna*

Among the many unknown aspects of our Universe is this undescribed law (termed unscientific no doubt by most people) governing time and human relationships. 'The time was/is not ripe' is an oft quoted statement by people. In my case this ripe time to meet Prof Chandra (Chandru to his close friends) did not arrive till 2014 when I enrolled to attend the Insect Taxonomy workshop at GKVK.



I was a bit lost in those surroundings where the talk was all about funding, projects, field work and about who is doing what. He kindly took me under his wing, and we started talking about insects in a way that was refreshingly different and indescribably interesting.

First meetings always leave the most lasting impressions. I am reminded of Jiddu Krishnamurti's poignant saying, 'the first step is the last step'. My first meeting with Prof Chandra in the corridors of the entomology department at GKVK will forever remain etched in my memory. It was instantaneous - the birth of friendship and respect. I ask you -how many professors really would stop to talk with an unknown person at a workshop, especially to one who is not even a professional entomologist? None before him have ever met me in that amazingly open, friendly manner that goes towards the formation of an immediate relationship! The smile - so genuine, the greeting - so warm, and lo and behold a compliment to boot, then and there Professor Chandra became my second guru of entomology. I say second because it was the kindness of my first Guru - another amazing Professor- Emeritus Viraktamath that made it possible for me to be part of that workshop and provided me with the opportunity to meet this intense insect lover, entomologist par excellence Professor K Chandrashekara.

Can I write anything more than what others, who have known him for so many more years than me, have said? Perhaps, yes. My friendship with Prof Chandra will show one more facet of his personality, namely his non-judgemental, open minded approach. He knew everything about and kept track of all the happenings in the world of insects. So, he knew that I had written a book on insects, even though he was not directly involved with it in any way. But he knew about it, and when he met me, his first words were compliments. He is that - a kind and generous Professor, a rare entity. I was a bit lost in those surroundings where the talk was all about funding, projects, field work and about who is doing what. He kindly took me under his wing, and we started talking about insects in a way that was refreshingly different and indescribably interesting. If only it could have gone on, but like in all workshops, time the villain intervened. The conversation had to end and I left his company rather wistfully. In the next few days, such an opportunity never came by except for brief encounters, for he was busy with his work and I was busy chasing entomologists to discuss identifications for the insects I had photographed. The idea of calling him up for a conversation from the hostel allocated to us, did cross my mind; but I was worried about bothering him at home - to take away his family time.



Some of the most cherished conversations were about the universe, evolution, and of course insects.

The Universe intervened, coming to my help in the form of a seminar at NCBS. I caught up with the Professor and asked him if I could accompany him. The two days I had permission to attend were days I will never forget - ever. The discourses on evolution, specifically evolution of insects was an eye-opener for me. I also found how broad minded he was, when he allowed me to put forth some of my own 'immature' thoughts on evolution, especially my views on moths. He had some amazing insights to share and my discussions with him helped me in improving my writings on insects. I did not live in Bangalore and could only catch him for a few minutes whenever I made a day's trip to the entomology department. The last meeting was during the 'Insect Exhibition' in 2019. Covid was a small news byte then. The Universe's warning that went unheeded.

It never entered my mind that he would not be there when I next visited the Entomology Department at GKVK. There are many unfinished conversations, but will I find another Prof Chandra? One who will not belittle my ideas or make me feel small but encourage me, give me new ideas, point out new directions to me? Would the Universe which figured in my conversations with Prof Chandra have an answer? Some of the most cherished conversations were about the universe, evolution, and of course insects.

Wherever you are in the Universe now, Pranam Prof Chandra. If the Hindu philosophy is to be believed, you may have another lifetime to be with the insects. It is a selfish thought. I hope you are reborn, for the insects need a friend like you, even more than humans.

Geetha Iyer, PhD, is an ardent naturalist, author, teacher and independent consultant in the field of School Education and Environment. Her passion is the study of moths and she writes frequently about insects for several magazines. Her first book co-authored with Rebecca Thomas, "Satpada-Our World of Insects", is a great introduction to Indian insects. "The weavers- the curious world of insects" is another of her wonderful books introducing one to the exciting world of silk producing insects. Her passion to learn about insects drew her into attending a three week-long training programme on insect taxonomy at GKVK when she met Chandrashekara.

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You will always live in us

YB Srinivas



“

He helped us ‘see’ many facets of insects, beyond what our eyes could behold. No one made us imagine insects like he did.

I

still can’t come to terms that I am writing this passage, and that Chandru Sir won’t be reading it. I have always shared with him everything that I ever wrote in my life. No! This can’t be true! I want to believe he will read all that I would write in future too. And, this belief is not without reason. He lives in me!

“Chandru Sir, you live in every student of yours. You offered so much to us, I repeat, so much to us, that every one of us carries something of you in our lives. You didn’t just rub yourself on to us; you opened our hearts and our brains, dug in deep, and made a home for yourself there. Did I say that you would live in us for as long as we do? No! Don’t worry! We have passed you on to our students and children too. You will surely outlive us! You have a very long life!”

People of Chandru Sir’s kind beat Darwin and Mendel together. Isn’t it? They become a part of the genomes of all those who come close to them. They subtly express themselves in those

people, and get passed on by them, unmodified, to subsequent generations. I wish I could have told this to his physical being. Sigh! I missed!



(left to right) Chandru with VV Belavadi, S Ramani and Ambika. Photo: HM Yeshwanth

He helped us ‘see’ many facets of insects, beyond what our eyes could behold. No one made us imagine insects like he did. For those of us to whom entomology still matters, we have a whopping lot of him in us. There was this, well, of course, a different kind of, scientist in him — questioning, teasing, always-ready-for-a-duel, taunting, talkative, energetic, curious, passionate, insatiable and well-informed. He was infectious too, a super-spreader! We used to feel and behave like scientists while he handled our classes. We needed to spend just five minutes with him, and there was that wisp of a scientist that lingered on in us for days after. Oh! for those who have recently met him, and found him slow and miserable, trust me we were then in our early 20s! We, then in our early 20s, couldn't keep pace with him when he took us on field-visits. This tall, lanky genius, with a quarter of his lungs sacrificed to culture bacteria in vivo, made us run behind him, because he used to walk as ‘briskly’ as he talked, and we couldn't afford to miss his wise words.

Let me share a secret with you. I think I have a little more of him in me than in any of his other students. If anyone intends to

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He [read] the letter [of a job offer] from me and said, “Srinivas, you will do something good in your life only when you don't mind retiring at the same post that you have been offered”.

challenge me, please read on. For a lot of people, he was a teacher par excellence, a true colleague, a friend like no other, and an admirable guide. But, he was all these and more for me. I don't have words to describe the relationship we shared.

It all began in the first hour of my Master's program at GKVK. Of course, it was in the classroom, and we fought tooth and nail ('argued' would be a very soft word)! He tried to demonstrate random distribution, and I couldn't agree with his methodology. The fight didn't end on that day; it dragged on for the next two weeks. I, finally, gave up. Well, he was a genius, I was a novice. Those who walked in the corridor said that they could hear us loud and clear. That was the intensity of our fight. And, I guess, it was this fight-at-first-sight that bonded us strongly.

I ran to him with the letter for a job at the Institute of Wood Science and Technology. He took the letter from me, read it, and said, "Srinivas, you will do something good in your life only when you don't mind retiring at the same post that you have been offered". He was so correct. He made the biggest difference to my career. He took me by his hands and walked me over the paths of ecology and evolution. He inspired me to undertake a program on measuring the diversity of insects in the rainforest canopies. I owe him all my scientific work. I am fortunate. I am proud too.



My daughter, Gayatri, was special to him. I always felt that he saw his daughter in her. Gayatri wasn't well at birth, and it was Sir and [Yamini] Madam who supported us during those testing times.

I was 42 then. I quit my job at the Institute. I firmly believed that digitalisation could make a big difference to agriculture and wanted to try my luck at it. But the transition from science to business, from evolution to software, from theory to extension, was very tough. And it still is! Well, it was Chandru Sir who stood like a solid rock behind me. He was always the first person I would call and share everything nice, every new thought, every anxiety and every pain I went through. He enjoyed my little gains, encouraged my ideas and absorbed my pains. He spoke about my work everywhere. He connected me to people he knew. Be it related to work, or personal life, he and Yamini Madam have been more than parents to our family. They gave us the support that we very much needed. Nobody could understand our situation better than them. Chaya, my wife, can explain it better.

My daughter, Gayatri, was special to him. I always felt that he saw his daughter in her. Gayatri wasn't well at birth, and it was Sir and Madam who supported us during those testing times. They took us in their arms and helped us pull out of all our difficulties. Just days before the catastrophe that took his physical self away from us all, Madam came along to purchase sarees for her wedding, and Chandru Sir approved them. Now, it is so difficult to think of conducting

her marriage without him blessing her. The coincidence that it is, she will be marrying his Ph.D. student!

It is emotionally draining for me to write what Chandru Sir was to me and my family. I cannot count the moments we bitterly fought over science and politics, when I have cried bitterly on his shoulders. It is him, still alive in me, who will help me go on with my life. He will always live in me!

YB Srinivas did his M.Sc. in Agricultural Entomology at UAS, Bangalore and worked at the Institute of Wood Science and Technology, Bengaluru. He is presently Director, Tene Agricultural Solutions Pvt. Ltd., Bengaluru working on digitally empowering the agricultural sector.

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A biologist in the planetarium



HR Madhusudana

This is something I would rather not write about. I am yet to come to terms with the fact that Prof KC is no more with us. What could I possibly write about him? He was dear to me, having met him on a number of occasions in the last two decades. From what I have read about him – written by fellow scientists – in the aftermath of his passing away, I have come to discover a new KC! In essence, this summarises Prof KC's persona. He would not discuss his work unless the situation demanded it.

My window to his research work was through lectures that he gave to the students at the Jawaharlal Nehru (JN) Planetarium, Bengaluru. It must have been 1998-99 when Prof KN Ganeshaiah introduced Prof KC to us. He gave a talk on 'Dung Beetles.' His words that, 'Remove the dung beetles from this planet for a few days and the whole earth will begin to stink' is still etched in my mind. He made a powerful statement about the importance of dung beetles. Needless to say, that talk left a deep impact on all the students and especially on me. After this talk, I developed a healthy respect for insects, in general. Isn't that the primary objective of a good teacher – to make students respect the subject that one is teaching?



One of the students was so impressed with this way of doing science, especially neuroscience, that he, on his own admission, decided to do research in biology. He is currently a PhD scholar at NCBS.

Later, over the years, Prof KC became a permanent fixture in our educational programmes – especially the theme-based summer courses for high school children. No matter what the theme was, he had some aspect of insects involved in it. One of the most unforgettable talks that he delivered was on insect vision. Quoting Mandyam Srinivasan's work, he gave a highly inspiring talk on how insects possibly detected motion. After his class, I searched for this paper and found it – "EVIDENCE FOR 2 DISTINCT MOVEMENT- DETECTING MECHANISMS IN

INSECT VISION". Therein, I found that Prof KC was one of the authors of the paper and that he had never mentioned it in the class. That was his nature. When I mentioned this to him, he just brushed it away saying that it was all the work of others.

Over the years, the bond between Prof KC and me grew stronger. He was very keenly following the progress of educational programmes at the planetarium. He was happy to be associated with it at all times. But, somehow, his fragile health did not allow him to come to JNP more often than he would have liked. His last talk at the planetarium was around 2011-12. He had come prepared to deliver a talk and the pen drive that contained his talk did not 'open'. So, instead of a prepared talk, he asked me if he could speak to the students about a book that had greatly influenced him. I told him that he could speak about anything since it would be anyway inspiring to all of us. He spoke about VS Ramachandran's "Phantoms in the Brain". He introduced to us the novel, non-destructive methods of Prof VSR. One of the students was so impressed with this way of doing science, especially neuroscience, that he on his own admission, decided to do research in biology. He is currently a PhD scholar at NCBS. His name is Pavan Karthik, who was pursuing a UG programme (REAP) for physics students at the planetarium! Like Pavan, he has inspired several other students, too. Umesh Mohan, who is on the verge of graduating from Prof Sanjay Sane's lab, and again a student of REAP at JNP, is another.



It was a gesture that defined his character. While he could have informed me through email or phone, he chose to make a personal visit to break the news. He valued personal interactions.

Even though Prof KC could not give talks, on health grounds, he made it a point to be at the planetarium during science exhibitions encouraging children who would have put up their experiments. His patience and encouraging words are what stand out from those interactions.

Prof KC and JNP had another strong cord – his son Karthik. Karthik has been a student of JNP academic programmes for as long as I can remember. He was pursuing a programme in physics in Germany. Prof KC was very proud of this achievement. He took pride in saying, "Madhu, Karthik keeps telling me about his work in physics. I hardly understand it. Some day you must simplify this for me."

Our last meeting was brought about by the happy news of the offer that Kartik had to pursue his PhD at a German university. Prof KC paid a surprise visit to JNP along with Karthik and Mrs Yamini, his wife. It was a gesture that defined his character. While he could have informed me through email or phone, he chose to make a personal visit to break the news. He valued personal interactions. As they left, his parting words of caution to me were about the prevailing pandemic. And he wished that we meet 'soon' to have a get-together before Karthik left for Germany. Alas! That remains an unfulfilled wish for all of us.

I feel happy to have met Prof Chandrashekara. As they say, spending time with a wise man is an education in itself. I had my share of it. Thank you, sir!

HR Madhusudana is at the J N Planetarium, Bengaluru since 1995 and is involved in teaching at the various educational programmes conducted by the planetarium. He also works on the shows organised by the planetarium.

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Mentor extraordinaire

Revanna Revannavar



Arms akimbo, a beatific Chandru amidst nectar and larval host plants of butterflies, observes Danaus chrysippus at a feeding station within the adult rearing enclosure

Oh my God!... I lived with Chandru sir for 29 years!!! It is unbelievable!.... Years ago, I remember as I passed by an examination hall as a new entrant to the college, I saw him for the first time. As the invigilator of a batch of post-final students (students who had completed their official period of study but still had some courses to complete) I saw him engaged in a curious activity. With a razor blade he was intently scraping the outer surfaces of the barrels of ballpoint pens that the students had brought with them. I found it both comical and perplexing..... till I was told by

someone a long while later that these students had devised a novel method of copying by etching formulae, scientific names, and other hard-to-remember material on their ballpens. And Dr Chandrashekara, having learnt about this set about thwarting their attempts by stepping into the fray in person.

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During one semester break he sent me – on an assignment that on the face of it had nothing whatsoever to do with entomology - to participate in a Post-Pulse-Polio Survey.

When I entered the Department of Entomology for my higher studies I was fortunate to attend a course being offered by Chandru sir. His teaching style was unique. He endeavoured to develop our faculty for independent thought and to instill the passion for research in entomology in us. He always had the welfare of his students in mind. During one semester break he sent me – on an assignment that on the face of it had nothing whatsoever to do with entomology - to participate in a Post-Pulse-Polio Survey. It was only after I had completed the job, that I realised it's value. It had not only helped tide over my financial woes but also helped me learn the technique of clustered sampling.

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We played *muttata* like children and frolicked in the river, with Chandru sir being the vocal percussionist for the Bijapur-style folk songs that I sang.



Mahadevappa, Senior Research Fellow at the butterfly park explaining aspects of butterfly rearing to visitors. Chandru (third from left) observing immature stages of butterfly in rearing container

My proximity to Chandru sir however developed only when I joined the DST sponsored project on the 'Ecology of dung beetles'. Given a pre-owned canvas trekking bag (of 25 kg capacity, which is in use by the soldiers of the Indian armed forces), I was entrusted with the collection of beetles from the dung of various animals from across the state of Karnataka. I'm not certain if it was naivete or my boundless zeal for research that made me collect beetles unhesitatingly from all excrement that I came across, even human faeces. Seeing my dedication, Chandru sir rescheduled my work, alternating a week for beetle collection with the search for relevant literature the succeeding week. I

had to collect literature from designated journals like Scientific American, American Scientist, Nature, Science, JBNHS, etc. – my first exposure to journals of such high standing.

One of my most memorable experiences when working on this project was the collection trip that we – Chandru, ARV Kumar, Sumitramma and Poornima -- undertook to Antarasante near HD Kote. Excitement ran high and our nerves were atingle with anxiety the night we went to collect beetles from tiger scats. To add to the sense of danger we had an armed forest guard accompanying us at the behest of his superiors. I was fascinated to see Chandru sir following animal footprints and leading us to dung pats by. We played *muttata* like children and frolicked in the river, with Chandru sir being the vocal percussionist for the Bijapur-style folk songs that I sang. It was on this trip that I learnt the method of preserving dung beetles in alcoholic drinks when the ethanol we carried for the purpose ran out.

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[A] memory that will never fade is the frenzied dance that Chandru sir once spontaneously broke into in the dank, swampy forest of Kelakalige, near Shringeri, when he was the first to spot a larva of *Idea malabarica*, the Malabar tree nymph.



Chandru (right, rear) and ARV Kumar discussing the blueprint of the butterfly enclosure with the architect (left)



Details of the blueprint being discussed by Chandru, other entomologists and the architects



Chandru (second and third from right, respectively) and members of the team of lepidopterists reviewing progress of work from within the main dome of the butterfly enclosure



Of the many memorable experiences with Chandru sir, one was working on the project to establish the Butterfly Park at Bannerghatta. We recorded 115 species of butterflies from Karnataka along with their host plants and studied aspects of their courtship, mating and egg laying behaviours. We also built a collection of photographs and studied the developmental biology of 32 species of native butterflies, standardized their mass rearing protocols and devised feasible technologies to launch and maintain the butterfly enclosure at the Bannerghatta Biological Park.



On-site review of progress of work of the butterfly enclosure (Chandru, second from left)



Review team monitoring progress of construction of butterfly enclosure (Chandru in red shirt)



Discussions underway along the road (before and after paving) leading to the butterfly enclosure in Bannerghatta National Park (Chandru first and fourth from right, respectively)



Another memory that will never fade is the frenzied dance that Chandru sir once spontaneously broke into in the dank, swampy forest of Kelakalige, near Shringeri, when he was the first to spot a larva of *Idea malabarica*, the Malabar tree nymph. On several occasions after that he'd proudly say that it was HIS butterfly because he was the first to find the immature stages of this dainty butterfly. We successfully reared this butterfly and observed it for many years. In the years since then, I have continued my efforts at conserving this threatened, red listed butterfly in the Western ghats, in Mudigere.

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I marvelled at the depth and reach of the discussions he led They could meander anywhere, from possible areas for research, formulation of innovative research methodologies to the contents of recent research papers of common interest.



Presentation of the design of the butterfly enclosure for discussion and approval before a select committee



Chandru (first from the right) and others planning details of landscaping within the main dome



A bird's eye view of the layout of the butterfly enclosure and attendant structures



Chandru (third from right in both images) and others reviewing progress of work on the butterfly host plant garden



Chandru (in striped shirt) interacting with butterfly rearing and maintenance staff

Chandru sir was a rare asset to UAS, Bengaluru, especially the Department of Entomology. Our entomology family knows how Chandru sir reshaped the Department of Entomology by bringing in projects; ramping up facilities; re-activating the Entomology Club; launching study groups; organising seminars, workshops, training programmes, conferences, and insect exhibitions.

It was always a pleasure to accompany him to the cafeteria, along with his scientific colleagues and fellow students, for tea. I marvelled at the depth and reach of the discussions he led on these occasions. They could meander anywhere, from possible areas for research, formulation of innovative research methodologies to the contents of recent research papers of common

interest. I was equally struck by the fact that they never strayed into discussions of a personal nature, though his pride in his wife and son were often in evidence. I remember the day he showed us 'Tsunami', the first article that his son wrote, exuding the intense satisfaction of a proud father. It would be no exaggeration to say that while Chandru sir dwelt largely in the realm of the intellect, he always thought and never forgot about the welfare of those who were less fortunate than him.

To me he was an exceptional mentor. Though I did find myself at times at the receiving end of his anger, I realise that it was always for my betterment. He taught me all that I know about photography, the planning of experiments, statistical analysis, the writing of research papers, report preparation, etc. Very recently I received a phone call from him with the suggestion that I submit a project proposal on the utilisation of the black soldier fly for the recycling of local wastes in Mudigere.

Thank you Chandru sir, for changing my life for ever by moulding me into the person I am today. I will miss you forever.



Chandru (standing, centre) and the team of lepidopterists before the main entrance of the butterfly enclosure

Revanna Revannavar, PhD, is an Assistant Professor at the Department of Entomology, College of Horticulture, Mudigere. He was a student of Chandrashekara while pursuing both his undergraduate and postgraduate programmes.. He was also associated in some of Chandru's projects in various capacities as a Junior Research Fellow, Senior Research Fellow and Research Associate. His association with Chandru extended for over 29 years.

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A warm, vibrant and creative entomologist



TM Manjunath



Trustees of Krishi Vidya Nirantara [From Left: A Mohan Rao (Hon. Treasurer), PS Srikanthamurthy, PG Chengappa, TM Manjunath (Hon. Managing Trustee), Shridhar Paradkar, K Chandrashekara, ARV Kumar, MP Harish Kumar (Hon. Secretary), SV Jayanthi, N Sumithramma]

First of all, I deeply mourn the untimely demise of Dr Chandrashekara Krishnappa on 3rd April 2021 (64 years) and convey my condolences to the bereaved family. It is a big loss to our entomology fraternity.

I have known K Chandrashekara as an M.Sc. (Agri.) student in Entomology from 1979. I was then with the UAS Bangalore and worked at the Regional Research Station, V. C. Farm, Mandya, from 1976-1981. Later, I resigned from the University in 1981 and changed my job. No matter where I worked, I always maintained close contact with UAS-B in general and the department of entomology in particular. Most of the faculty members were very close to me. Dr

Chandrashekara became closer to me after he joined the department at UAS-B as Assistant Professor in 1994 after obtaining his Ph.D.

In the department of entomology, there was a huge gap in age from one generation of senior faculty to the next. When the older generation retired one by one, the next generation was relatively young. For some of us who were visiting the Department in one context or the other, this gap was glaring. However, Dr Chandrashekara along with Dr ARV Kumar and a few others, who were familiar with all, acted as the link between the older and the new generation and made us feel comfortable. They were warm, respectful and enthusiastic. They created opportunities for us to come together. For example, Dr Chandru took great initiative in organizing seminars/symposia now and then and made it a point to invite as many entomologists as possible, both within and outside the University including those who had retired but remained active.

Sometimes he used to invite us even for important student seminars, for us to interact and offer suggestions. Besides sending invitations by mail, he used to telephone and extend personal invitations to us. This was very endearing which in itself was a great contribution in creating bonds between entomologists of all age groups, including the students at the department of entomology.

Dr Chandru taught entomology at the UG and PG levels. He always had an urge to do something 'out of the box.' Even the subjects he taught were unusual which included Chemical Ecology of Insects, Insect Behaviour, Techniques in Entomology, Scientific Writing, etc. He had a distinctive style of teaching that was more interactive and it was liked by the students. He had a burning desire to popularize entomology. In pursuance of this, he was instrumental in conducting two entomological Quizzes for School and College Children during 1998 and 2000. These were huge successes. Further, he took the initiative in organizing the Insect Exhibitions in 2002 and again in 2018. These were spectacular and educative and attracted hundreds of visitors, especially students, and were greatly admired. All the staff and more particularly the senior students were involved in organizing these. Dr ARV Kumar and he mostly worked together in all these activities and made an exemplary team. While organizing these events, they used to approach me for guidance and support which I readily extended in appreciation of their commitment and for the promotion of entomology.

Another significant initiative taken by Dr Chandrashekara, again along with Dr ARV Kumar and a few others, was inviting about a dozen like-minded alumni of the UAS-B, mostly entomologists, and creating an educational trust to provide scholarships to selected needy agriculture students. This was prompted as a result of their personally witnessing the financial stress that some of the students were undergoing. The trust is registered as 'Krishi Vidya Nirantara' (KVN) and has been functioning since 2007. They unanimously nominated me as the Honorary Managing Trustee since its inception. Thanks to the generous personal contributions made by most of the trustees, especially Mr Jag Reddy, we have a handsome amount (Rs.16 lakhs) kept in the bank as Fixed Deposit and only the annual interest earned has been distributed as scholarships to the selected candidates (Rs.10,000/- each). Thus, it remains a perpetual ('nirantara') source of income for scholarships. For the last several years, until his sad demise, Dr Chandru served as the Honorary Secretary of KVN with Dr A Mohan Rao as Honorary Treasurer. We had several plans for further strengthening KVN but could not accomplish them due to various limitations and now, alas, Dr Chandrashekara himself is no more. However, our efforts will continue. It was during this phase of KVN that Chandru became closer to me.



Trustees of Krishi Vidya Nirantara [From Left- PS Srikanthamurthy, TM Manjunath (Hon.Managing Trustee), Chandrashekara (Hon. Secretary), Jag Reddy (A munificent donor)]

We used to have monthly meetings in the first few years and later at longer intervals. He also used to come to my house. These meetings used to give us opportunities to meet. I remember that after each KVN meeting was over, Dr Chandru and Dr Kumar invariably came to see me off. At that time, often standing in the corridor for 30 to 45 minutes. or more, we used to informally discuss diverse issues related to the department of entomology, University affairs, national issues on agriculture, educational systems, the political situation in the country, religious complexities, cultural activities, etc. From these discussions, I could make out that Dr Chandru was very well-read, had a vast and deep knowledge on a variety of subjects, had his own appreciation and criticism, and was always highly cultured in his arguments, He was truly knowledgeable and it used to be a pleasure interacting with him.

Dr Chandru retired as Professor & Head, Department of Entomology, UAS-B, in November 2019. He was a very warm, kind-hearted and vibrant personality. He had so many ideas to promote entomology and bring changes in the educational system. Unfortunately, though usually very active, he had long standing health issues. His creative enthusiasm was far in excess of what his health would permit.

May his soul rest in peace.

TM Manjunath, PhD, worked at the Commonwealth Institute of Biological Control, Bangalore and at UAS, Mandya before becoming a pioneer in the private biological control industry through his stints at the Biological Control Research Laboratory and later as the Director, Monsanto Research Centre, both at Bangalore. He is now an Agri-consultant based in Bengaluru.

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A friend to all

B Mallik



Chandru (standing) in conversation with BN Vishwanath (seated). TM Musthak Ali and KR Jayaram (also seated) in conversation with students during an insect exhibition at UAS, GKVK. Photo: HM Yeshwanth

A

fter I retired, it became inevitable that I spend at least a while with Chandru whenever I visited GKVK. These few minutes saw us discussing a range of topics from snakes, birds, Amrita Sher-Gil to William Dalrymple. The most recent was Leslie C. Coleman, the pioneer entomologist in Karnataka whom we both admired. Even now I often relive these moments I spent with him.



And true to the nature of [our] relationship it was him I'd go to for advice on various aspects of ecology and behaviour.

Chandru was passionate about his beliefs and argued with conviction for what he stood for. Perhaps it was this, or may be something else about him, that made me, flouting all convention, address him in the plural as 'neevu' in Kannada. In English it naturally became 'sir', though I was elder to him and his senior in college by many years. This was not the case with the others like Ramani, Belavadi or Kumar who were all younger to me or even with Viraktamath, who on the contrary was senior to me by several years. Thinking back, I realise that though he was my student, in due course it was I who became his student. And true to the nature of this relationship it was him I'd go to for advice on various aspects of ecology and behaviour.

Sometime in 1979-80, I assisted Dr GK Veeresh in conducting the practical classes for the course Horticulture Crop Pests. Among others, this batch consisted of Veerabhadra Reddy, Shankar Swamy, Nagendra, Ravindra, etc. and I had to accompany them on a field trip to Mudigere as a part of this course. As no accommodation was available at the guest house at the Cardamom Research Station, Mudigere, we had to spend that night at a dormitory in a lodge in town. As we were settling down for the night, to my utter horror I found the place teeming with bedbugs. Sleep evaded me and I stayed awake the whole night. Chandru and his friends slept well. Whenever any one of them woke up, they'd see me sitting up and would enquire what the problem was before dropping back to sleep. Day break saw us walking back to the Station with the assurance of rooms to stay for the remainder of our trip. My mind was however not at peace. I was troubled by the possibility of our carrying bedbugs, that may have lodged themselves in our baggage, back to our houses. I insisted that we spread our belongings on the lawn to rid them of the accursed bedbugs, by exposing them to the searing heat of the sun. It was only after ensuring that all had followed my bidding that we proceeded to the cardamom plots. Here I began by saying that 'cardamom attracts a large number of insects'. This, somehow struck a funny note amongst the students and Chandru would on many subsequent occasions quote this and the bedbug experience to pull my leg. He had this propensity for good-natured banter, which could light up and bring cheer to many a dull moment.



From being an integral part of all ... insect exhibitions organised in various parts of the city [Chandru] became the guiding spirit and the pivot of the more recent ones.

Another such example was from a trip, sometime in 1980, to Bannerghatta with Ramani, Ganeshaiah, Umashaanker, Sridhar, HR Krishnamurthy, Chandru and others. Since I was the only one who had a nodding acquaintance with the route to Dodda Ragihalli Betta, our destination, it was only natural that I was chosen to lead the pack. Always doubtful of whether I was heading in the right direction, my instructions at every turning reflected my uncertainty. Take that turning 'a little to the right, or a little to the left', was what I'd shout to my friends, some of whom were walking ahead. Chandru did not fail to notice the illogicality in these vague pronouncements of mine only to become the source of endless raillery in the days to come. The gleam in his eyes and the devilish smile on his face whenever he brought up these instances with evident glee are unforgettable.

When we conducted the first insect exhibition at Vishveshwarayya Industrial and Technological Museum, Bangalore in 1979, Chandru was in the final year of his B.Sc (Agri) programme. He actively took part in arranging the insects in boxes and then displaying them. During the long, dreary hours we spent organising the displays, Chandru with his infinite capacity to mimic almost anyone would impersonate Sarkar, the chief artist, and Chakrabarthi, the Director to bring the much needed cheer to pep up our sagging spirits. From being an integral part of all the subsequent insect exhibitions organised in various parts of the city he became the guiding spirit and the pivot of the more recent ones.

Whether organising an exhibition or offering a course to his post graduate students Chandru would only act as facilitator, helping to ensure that students find their own measure and complete the task at hand on their own initiative. Knowing full well that he would not think for them, the students too dug into the wellsprings of their creativity, designing and displaying exhibits of a varied nature contributing to the huge success and growing popularity of these exhibitions.

The conclusion of the 2008 Symposium on Plant Protection saw the development of the idea to organise the Coleman Lectures on an annual basis. Information on Coleman was not easy to come by. We had to track down information, which included a trip to the Balehonnur Coffee Research Station by Chandru, ARV Kumar, Belavadi and me. Chandru prepared the Souvenir for the first Symposium for which he wrote a biographical sketch of Coleman. The panels for display at the venue, were prepared by him and ARV Kumar and included some rare photographs of Coleman.

Chandru's absence was palpable to those of us who organised the Coleman Lecture on the 16th of June 2021. He used to be the moving force behind every aspect of the event, from inviting speakers to the preparation of posters, invitations, circulars, the handbook, and even writing letters seeking permission for funds from the University authorities. On earlier occasions whenever my anxiety, about the fast approaching date in the face of the enormous amount of work that remained to be done, was perceived by Chandru he'd drive all fear within me away with the biblical words of hope, "What is the purpose of the eleventh hour?" And true to his words, all would fall in place and the event would go on as scheduled.



He used the talents that he was gifted with to guide students and to share his ideas with colleagues, or even spend time on some work of the University ...

A couple of years down the line, Chandru proposed a novel plan to encourage and reward outstanding research by the post graduate students. They were to present their work and two – one each in entomology and plant pathology - that were adjudged the best would be honoured. This has so far been restricted to students from Karnataka and plans were afoot to extend this to include students from across the country.

When the building for the Niche Area of Excellence was under construction, Chandru would regularly offer suggestions and float ideas for its lay out. One striking feature with Chandru was, that with all his knowledge and skills, he was not keen on writing scientific papers or attending conferences. Had he done so, it would certainly have taken him to different corners of the world. He used the talents that he was gifted with, to guide students and to share his ideas with colleagues, or even spend time on some work of the University, or scrutinise papers submitted for publication or project proposals that were being submitted to the various funding agencies.

The periodic treks that were organised by Ganeshiah and Uma Shaanker helped in bringing our families together. Yamini, Veena, Usha and others became very good friends. Yamini would invite Usha to their house for every Varamahalakshmi festival. The bonds that developed between our families obliterated all traces of our official status. Chandru will always be remembered for his mischievous smile and hearty laughter.

B Mallik, PhD worked at the research station in Ullal, Mudigere and later at the College of Agriculture, UAS, Bangalore in the ICAR-All India Network Project on Agricultural Acarology. He was Project Coordinator for AICRP on Agricultural Acarology from 1993 to 2000 and National Coordinator for AINP on Agricultural Acarology from 2000 to 2011. He was also Director of Instruction (Agriculture) from 2010 to 2012.

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A memory called Chandra

BN Sathyanarayana



Chandru (seated, third from left) in conversation with B Mallik (standing, first from left), KV Prakash (standing), VV Belavadi (seated, first from left), ARV Kumar (seated, second from left), and TM Musthak Ali (seated) at the UAS auditorium, GKVK. Photo: HM Yeshwanth

It wasn't like any other day. I left home and hit the street. My gait exuded pride and unparalleled excitement. Passing through the gate, I looked up to catch the sight of a lettered name on the wall which read, GOVERNMENT SCIENCE COLLEGE, Nrupathunga Road, Bangalore. The prospect of passing out from school and joining

college was a cherished dream of mine. I did not know what to expect on my first day in college. I looked around only to come across a small group of people (who appeared older than me) looking at me and one enquired, "What do you want?". "I have joined the College". They continued, "Look this is a college not a School". I nodded in affirmation "Pay heed to what you wear", one said. I realized that they were critical of me having worn shorts. I never had a pair of trousers with me any way.



One among these was a celestial pick, the questioner, my good old PU mate K. Chandrashekhara.

Next day I was in my trousers feeling strange but good. I was on cloud nine, being there in a college. I found my classes quite interesting and certainly very different from the teaching at school. I was yet to be acquainted with my classmates. There was one interesting guy whom I was quite drawn to. In every class he had very many questions for the Lecturer. Others rarely opened their mouth. I was yet to open an account too! This guy was lean and appeared quite tall. His lean build made him look taller, though he was of medium height. Needless to say, he was one among my many friends and remained so during my graduation days at the Agricultural College, Hebbal, albeit he joined the College, a trimester late. He was one of those beneficiaries admitted to the College on a special drive and this batch was infamously called as the Ministers' batch by the students of the regular batch. These special students were supposed to be the ones who couldn't make it in the regular batch but were later picked on choice by the law makers, I mean political class. One among these was a celestial pick, the questioner, my good old PU mate K. Chandrashekhara. Our intermittent meetings those days were invariably spent reminiscing about our PU days, friends of ours, their whereabouts, teachers of that College, the brilliance of the many, the foolhardiness of the few, our NCC days, coupons after NCC sessions which used to fetch us delicious evening snacks, especially our favourite khali dosas and chutney, at Bangalore Sessions Court canteen, frequent strikes by protesting students, teargas and lathi-charges by the police, and our escape to the Arts College grounds (opposite Central College).



Chandra was great at mimicking the utterly fast paced running hockey commentary of Jasjith Singh in Hindi

Not many knew Chandra was a sports buff. Though shy of playing, he, like the rest of us, enjoyed discussing the feats of the cricketing and hockey greats of the time. More often, we

discussed Indian hockey at length. Govinda, Zafar Iqbal, Ajit Pal Singh, Shahid, and Dhanraj Pillai were some of our favourite picks among the players to be discussed at length, especially their speed and artistic stick work. Chandra was great at mimicking the utterly fast paced running hockey commentary of Jasjith Singh in Hindi. Rajan Bala's cricket coverage in the daily newspaper was another rallying point for us. It was our obsession with reading newspapers on a daily basis since our childhood days that made us vibe with each other. We were at ease with any topic during our discussions. Later, as colleagues at the University, two issues dominated our discussions; one, that of University matters and the other, Politics. With the University, it's always about how things are and how things could have been, pivoting largely on efforts needed to take the University to another level. We were very vocal about it and weren't afraid to put it across to the people who matter at the University, though I am afraid Chandra used to chicken out later and press the panic button fearing repercussions.



Chandra's depth of knowledge on any issue and his exemplary analysis of issues were soul-nourishing for me.

Change of guard on the National political scene post 2014, was always a topic of heated debate at the outdoor 'canopy coffee table' of GKV K canteen. Almost every other coffee meeting 'viciously' centred on the never experienced 'neo-normalcy' and the 'catastrophe'. We both were one at it and hence, were a saving grace between us and we always pined for each other's company. We were so similar in our thought processes that our company was mutually rewarding.

Chandra's depth of knowledge on any issue and his exemplary analysis of issues were soul-nourishing for me. Post Chandra, every day I wish he were here, as so many recent developments which—would have warmed the cockles of his heart, would not have gone 'un-debated and un-discussed' between us. I won't, any time soon, be able to come to terms with his absence. I was aware of the precariousness and fragility of his health; and in spite of his ebullience, the aura of surrealistic uncertainty that hung over his existence always bothered me. Among the many feelings that may cross my mind before my last breath, the reality of losing out on memories of Chandra will be most painful. Thank you, Chandra, for having been a part of my life.

BN Sathyanarayana, PhD, Scientist Emeritus (Horticulture) retired as Dean (Postgraduate studies), UAS (B). *Sathyanarayana was a classmate of Chandru during Pre-University from 1973 and also during the bachelor's degree in agriculture. Later as a colleague in the University, Sathyanarayana regarded Chandru's company as mutually rewarding.*

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A portrait from memory

S Lingappa



*Chandru in conservatory housing
butterfly food plants*

Photo: R Revanna

My interaction with Dr K Chandrashekara was limited to a relatively brief period from the late 1970s to the mid-1980s. As a 'juvenile' Assistant Professor of Entomology, while I took keen interest in teaching I also consciously strove to develop a rapport with my students. The students too were demanding, with expectations of a very high order from their teachers. I taught two major/elective courses to final year B.Sc. (Agri.) students and it was during this period that Dr KC and I were drawn to each other.

The late sixties saw the advent of the era of chemical control in crop protection in India. The course on 'Insecticides and their uses' was therefore of great importance and I was offering it as a major/elective course. I found Dr KC, who had registered for this course, to be a smart, polite, receptive and enthusiastic student with an insatiable hunger for the subject. He was outspoken, seeking the clarification of doubts without compromising on his respect or his regard for teachers. He debated at length on the uses of insecticides. His first question was: what if no chemicals are available for pest control? As a follow up to this question was that on the scope and limitations of natural toxicants. On getting a convincing reply, he smiled and obediently expressed thanks. That was his style of learning and maintaining cordial relations with the staff.



He debated at length on the uses of insecticides. His first question was: what if no chemicals were available for pest control? A follow up to this question was on the scope and limitations of natural toxicants.

In his early twenties, lean and lanky like a stick insect, he was social, cordial and showed great interest in building the department. For his master's degree programme, he got the opportunity to work on the use of new tools in pest management. He used to consult me freely and frankly and seek guidance in the execution of his research work. Trained as a toxicologist in M.Sc. (Agri.), he was moulded as an ecological entomologist in practice.

I am proud to have been a teacher of Dr KC, as his contributions to entomology are immense specially in insect behaviour and ecology. My exit from UASB and the entry of Dr KC were almost simultaneous. This deprived me of deriving the satisfaction of observing in person his contributions to the development of the department of entomology. He did however retain his connections with me and appraised me of the developments on my visits to the GKVK campus as well as by inviting me to the annual "Leslie Coleman Lecture Series".

It is our misfortune to have lost a towering ecologist and behavioural entomologist before he could steer further the growth of the frontier areas of Insect Science at UASB.

Let his memories continue to be cherished by his students, friends and followers and may they take the baton from him and take forward all that he strove for.

Let his soul attain moksha.

S Lingappa, PhD, was on the faculty of the Department of Entomology at UAS, Bengaluru till 1986. He went on to become the Professor and Head, Department of Agricultural Entomology and the Director of Research at UAS, Dharwad, before he retired in 2015.

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Be Bold, but, don't be cold!

SN Lakshminarayana



A large group of students listening in rapt attention as Chandru casts his oratorial spell at the Insect Exhibition, GKV, Bengaluru. (Notice that all eyes are on Chandru, not one student appears bored or distracted.)

We, his batch mates called him Chandru, a short name for the big-hearted man. Chandrashekhara Krishnappa who belonged to the first batch of BSc students at GKV campus during 1975-79, was close to me. But, his reformist and liberal thoughts were quiescent then, and so remained unknown for very many years.

A Ministers' Batch student, Chandru and I separated after we completed our course, in the pursuit of our respective careers, mine in a bank and his at the university. Though it was wrongly presumed by us that the Ministers' Batch students were influential and not serious

about academics, Chandru I am told, was deeply committed to academics. But I failed to notice this, as I was busily engaged in non-academic activities.

Nick-named 'Mukku', a comic pet name referring to his prominent nose, Chandru made his mark in the university slowly, steadily and self-assuredly to become the darling of the students. He started proving that the Ministers' Batch too had real great stuff, making it more and more conspicuous time and again by his achievements and accomplishments. The laudatory reports from the university describing him as a students' teacher, a true scientist, a brilliant academician and so on kept pleasantly reaching my ears. At every drop of the hat, I chest-thumped on the accolades he received!



Chandru (seated, extreme right) at an annual get together of his batch

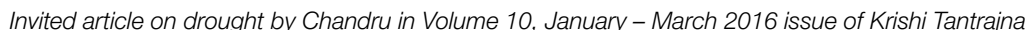
When we started holding our annual gatherings, he was one of those permanent back-office batch mates who handled projectors, screens, sound systems, laptops and the photo-'shaping' of friends! With annual gatherings, held usually during every 'monsoon', my personal relationship with him grew stronger and stronger. His ideas, ideologies, commitments, academic brilliance; his contributions to agriculture science, students and the university delighted me. What made him unique at the university were his varied and heterogeneous interests unlike the vast majority of his colleagues who confined themselves to mechanically teaching their narrow specialisations! This drew me closer to him!



What made him unique at the university were his varied and heterogeneous interests...

On learning of my social and literary leanings, he once recommended a book 'The Last Lecture' by Randy Pausch (with Jeffrey Zaslow). I read it in one sitting. This book had a profound influence on me and also signposted Chandru's tastes. I asked him to Guest Edit an issue of

The ‘Butterfly Man’, as I insisted on calling him, referring to the pivotal role he played in the establishment of the Butterfly Park at Bannerghatta, didn’t disappoint me as the Guest Editor! He edited the August, 2010 issue commendably. Chandru also wrote a brilliant piece titled ‘Drought....the most dreaded word in Indian Economy!’ for the Jan-March, 2016 issue of KT on my request, as a sequel to my review of P.Sainath’s book ‘Everybody Loves A Good Drought’ in



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an earlier issue. The analytic brilliance and verve with which he wrote the article left me with no opportunity to use my merciless pair of editorial scissors. His views on drought and the plight of its victims echoed mine so closely that I had to publish it with no editorial interventions.

I wish to believe that Chandru has now departed to an unknown but more benign world, one that is not as cruel as this one in which he had to undergo immense suffering. On learning of his debilitating lung ailment that menacingly threatened his very existence, Chandru exhibited the same qualities of stoicism, fortitude and equanimity as Randy Pausch when told of his imminent death due to pancreatic cancer. I have resolved to be as silent as the 'p' in the word psychology on how Chandru suffered, as it is painful for me to even write about it. Both Randy and Chandru stood for the words- 'Be bold, but, don't be cold!' Chandru remains etched not only in our hearts, but also in the Godambi (Cashew) Gazebo Complex at GKV Campus, our batch's contribution to our alma mater!



Left: Front view of the gazebo designed and erected by Chandru's batch in the Botanical Garden, GKV, Bengaluru.

Right: Names and ID numbers of the first batch of BSc students from GKV (1975 -1979) in the gazebo.

Photo: N Ravishankar

SN Lakshminarayana, BSc(Agri), UAS-B and PG Dip. Journalism, Bharatiya Vidya Bhavan, Bengaluru, belongs to the first batch of students at GKV Campus (1975-79). Starting off as a banker handling agricultural credit for 24 years, he later donned the mantle of a Business Consultant for some agri-input companies. He was an elected member of the Managing Committee of the Institution of Agricultural Technologists (IAT) and has been the editor of 'Krishi Tantrajna', a bi-monthly agricultural news magazine since 2006 (barring the years 2012-15). He is the founder-promoter of AgriPlacement consultants (APC), which offers recruitment and placement services to agri-professionals.

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A eulogy to my guide



KV Prakash



Almost 25 years ago [Chandrashekara] obtained the “Fund for Improvement of S&T Infrastructure (FIST)” project, the first of its kind in the University, to provide basic infrastructure in the Department of Entomology

For all of six months in a semester in 1995-96, every Wednesday afternoon, some of us regularly skipped lunch to attend Dr CA Viraktamath’s classes on Insect Systematics. Prior to his arrival in class we had to race each other to the lab to ensure that we grab the best of the available microscopes. Those who failed to corner a relatively good microscope were condemned to spend the next three hours straining their eyes, peering at a galaxy of amorphous shapes instead of the minute structures on the surface of the specimen that had to be observed if we were to proceed through the identification key to finally arrive at the family to which the insect before us belonged. This dismal scenario was to change dramatically with the efforts of Dr K Chandrashekhara.

Almost 25 years ago Dr KC obtained the “Fund for Improvement of S&T Infrastructure (FIST)” project, the first of its kind in the University, to provide basic infrastructure in the Department of Entomology. Now there is hardly a lab in the department where microscopes have not been installed. His passion and foresight created the ideal atmosphere for research in the department. This enabled the legacy of insect systematics set in motion by Dr CAV to continue unabated in the department.

“

Being an accomplished communicator and a raconteur of rare skills he would draw into his vast reserves of knowledge and lead us down paths of thrilling knowledge that most of us would perhaps have never discovered on our own

I am lucky to have been Dr Chandrashekara's first MSc student – unofficially though. This was when I got to know him up close. I worked on the vespine that he cherished the most, *Ropalidia marginata*, for close to three years. He was an amazing mentor who always motivated me as well as all his other students to give of our best. He religiously emphasised the value of reading, often sharing books from his valuable collection with us. I don't think I'd be wrong in saying that Dr KC read more books than most of us would even glance at in our lifetimes.



Ropalidia marginata, the vespine that Chandru cherished the most. Photo: DN Nagaraj

He encouraged us to form small, informal groups to engage in regular discussions on topics of current scientific interest. These were not necessarily confined to matters entomological. He too would join us and infuse these gatherings with the enthusiasm that it would otherwise have definitely lacked. Being an accomplished communicator and a raconteur of rare skills he would draw into his vast reserves of knowledge and lead us down paths of thrilling knowledge that most of us would perhaps have never discovered on our own.

Dr KC's resourcefulness and versatility were legendary. To the students and faculty of the department there was nothing that he could not set right. While others bemoaned ill luck or the vagaries of fate and abandoned themselves to inactivity hoping that things would somehow set themselves right he would seek and actively pursue those who had to be contacted and ensure that normalcy was restored. The inevitable drawback of this was that the rest of the department could now revert to a state of perpetual slumber.

Dr KC was an eternal opponent of all that led to ossification and consequent decay in the educational system. He fought to simplify procedures by removing the frustrating barriers that bureaucracy gleefully erected obstructing the paths of students and the faculty hampering both teaching and research. He strove tirelessly to drive home the idea that the thoughtless enforcement of a rigid barrier between the pure or basic and the applied sciences would prove to be counterproductive in an educational institution. In no uncertain terms did he also argue that the enforcement of adherence to a hidebound curriculum would be a sure recipe for the suppression of all creativity and enterprise.



There's no doubt in my mind what [Robert Paine's] unequivocal results would ... have been. Chandru and the starfish play identical roles in their respective communities

I've always thought that it was a pity that Robert Paine did not pick the University of Agricultural Sciences at GKVK as an additional ecosystem for his studies on community ecology along with the intertidal area at Markah Bay in Washington. In place of the marine organisms there, he'd have had the heterogeneous staff of the University here, as his test organisms. There's no doubt in my mind what his unequivocal results would then have been. Chandru and the starfish play identical roles in their respective communities. And voila he'd have christened them both – 'keystone species'.

KV Prakash, PhD is an Associate Professor in Entomology in the All India Network Project on Soil Arthropod Pests, UAS, Bangalore. His dissertation too like that of Dr KC was on *Ropalidia marginata*. From a student he later went on to become Dr Chandrashekara's colleague.
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Remembering Chandru



S Natesh

Have you noticed that the gods (or whoever) have stopped making people like Chandru long ago? That is why there are so few of them around us. Even worse, the gods (or whoever) seem to be recalling people like Chandru sooner than they used to. How else would you explain someone like him leaving us suddenly at sixty-three? Isn't it true that his time with us – as teacher, researcher, organizer, husband, parent, friend – was not yet done? For those of us who knew him, the world is surely poorer for the loss. I had the good fortune of knowing Chandru for about two decades. Memories come crowding, but here I would like to recall one memory that stands out.

“ At the heart of the project was the R&D component, and Chandru contributed to that with his heart and soul.

I first came to know Dr K Chandrashekara through Professors KN Ganeshaiah and R Uma Shaanker. The year was probably 1999 or 2000 and I was working in the Department of Biotechnology (DBT), Government of India, New Delhi. At that time, I was also the Member-Secretary, National Bioresource Development Board (NBDB). Those days I was passionately involved with the idea of setting up a butterfly park in India. Having seen live butterfly displays in New York, Singapore, and Edinburgh, I was filled with a strong desire to bring to our children (and adults) the joy of appreciating the wealth of our own biodiversity, and what better way to do this than through the charismatic butterflies! My vision of the park was one in which there would be: (a) display of living butterflies that were reared and released into a climate-controlled, naturally landscaped conservatory for visitors to see, study at leisure, admire and enjoy; (b) an interactive museum and interpretation centre on butterflies, moths and related arthropods; (c) a thematic souvenir shop where visitors could buy books and other items (post cards, mugs, T-shirts, umbrellas and so on) related to these organisms; and (d) a host-plant garden.

I prepared a concept note outlining these points, and armed with the Board's blessing for the same, was scouting around for potential partners and locations. At that point, Brindavan Gardens appeared highly attractive as a location as it attracted huge number of visitors. Its maintenance was under the state's horticultural department and on behalf of DBT/NBDB, a communication had gone to the Karnataka government showing our interest in setting up a facility, and offering technical and financial support. A meeting was arranged with Shri Upendra

Tripathy, the Secretary, Horticulture on 15 March 2000. At my request, Dr Uma Shaanker joined the meeting and with him was Dr Chandrashekara as well. At that moment he struck me as a very pleasant, disarmingly friendly person with whole-hearted enthusiasm for the concept of the butterfly park. In subsequent interactions it was obvious that the enthusiasm was welded to deep scholarship that sat unassumingly on him. I took to him immediately and like everyone else, started addressing him as Chandru. Over the following months, he proved to be such an invaluable asset to the butterfly park. After deeper investigation, however, Brindavan Gardens did not turn out to be a suitable location for two major reasons: the first was (can you believe it!) insufficient availability of water; secondly, butterflies are best seen during morning hours whereas the garden attracts visitors mainly during evenings.



Between 2004 and 2006 [Chandru and] his team's painstaking efforts led to the standardization of captive mass rearing and release of roughly 41,000 butterflies (comprising 18 species from Peninsular India) into the conservatory.

Meanwhile, the Forest and Wildlife Department of the state government was sending feelers to me showing their keenness to establish the butterfly park at the Bannerghatta National Park (BNP). The Principal Chief Wildlife Warden, Shri S. K. Chakrabarti and his officers were very enthusiastic. Land was no problem here and the subject fell within their jurisdiction. We were informed that the place attracted 15,000 visitors weekly and 600,000 visitors annually. After several meetings and consultations, and a great deal of ground work, it was decided to create the butterfly park there with three wings: (a) a *live display wing*, where butterflies would be maintained round the year (Zoo Authority of Karnataka); (b) a *research & development wing* on conservation, characterization, breeding and maintenance of butterflies of Peninsular India (UAS, GKVK); and (c) a *training & education wing* to create awareness on the importance of butterflies and other insects among the public (ATREE, Bengaluru). It took several more months to work out the details and obtain government approvals.

At the heart of the project was the R&D component, and Chandru contributed to that with his heart and soul. Back then life cycles of most butterfly species of Peninsular India were not known. Indoor breeding and mass rearing was still far away. Yet the park would be unsustainable without this technique being standardized for at least 20-25 species of butterflies. Between 2004 and 2006 his team's painstaking efforts led to the standardization of captive mass rearing and release of roughly 41,000 butterflies (comprising 18 species from Peninsular India) into the conservatory¹. He also prepared a butterfly calendar for Bannerghatta and started barcoding the important species. His interest was not limited to just the R&D component, but overflowed to all the activities relating to the park. Finally, the butterfly park was inaugurated on 25 November 2006. Chandru designed and distributed (with help of N. A. Aravind of ATREE) a small booklet entitled "Butterfly Park – A Conservatory for the Winged Jewels" on this occasion². The journey from concept to reality had taken over seven years, but many of us felt it was worth the effort.

¹ Chandrashekara K. 2006a. Creating a new flutter – the butterfly park. *Biotech News*. 1(4): 11-12.

² Chandrashekara K. 2006b. Butterfly Park, A Conservatory for the Winged Jewels: Concept, Plan and Execution.

Bannerghatta Butterfly Park

Three Year Report Card



Chandrashekhara K.



Kumar A.R.V.



J. Jayappa

India's first butterfly park, also the largest in the world, was opened to public in November, 2006 at Bangalore. Biotech News requested some of the people involved in the establishment of this unique facility, to re-visit the park and provide a feedback.

The Country's first Butterfly Park and one of the largest in the world, spread over 17 acres, was inaugurated and dedicated to the nation by Mr. Kapil Sibal, the then Minister for Science & Technology, GoI, on 25th November 2006 at Bannerghatta, Bangalore. The park was established with grants from National Bio-resource Development Board (NBDB), Department of Biotechnology, GoI through a tripartite project involving the University of Agricultural Sciences (USA), Bangalore, the Zoo Authority of Karnataka (ZAK), and the Ashoka Trust

for Research in Ecology and the Environment (ATREE), Bangalore.

Our association with the butterfly park project for close to five years had metamorphosed us from hardnosed professional entomologists to butterfly enthusiasts. The bug of nostalgia bit us often and induced in us an inquisitive longing to visit the park just to see how the ambitious project of DBT, GoI had been received by the public. Our visit to the park was also provoked by what we were reading in the media and science magazines. The impression we got was

that the year 2009 was the not just the year of Astronomy but also butterflies. And we firmly believe the tricks a human mind plays in selective filtering of information had nothing to contribute to this impression! There was so much happening with these amazing creatures of nature that the world seemed to be star-crossed by them!

Interesting news that was making rounds on the internet concerned the closure of a major national highway across Taiwan (east to west). One lane of the road is apparently closed each ►►

Chandrashekhara K., Kumar A. R. V. and J. Jayappa are with the University of Agricultural Sciences, GKVK, Bangalore.
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[Chandru's] greatest concern was that with DBT's funds drying up, the R&D and outreach [programmes] had become weak, and less children [were] visiting the park.

When three years were completed after the park was thrown open to the public, I called up Chandru to do an honest auditing of the park's appearance and working. As expected, he did a thorough job and presented a report card. His was not the casual criticism of an unfeeling

expert, but the concern of a worried parent observing his own child. To be sure, the park received considerable praise from several visitors, but he noted that the plants inside the conservatory were overgrown and required trimming; paint was peeling off here and there, and patches begged water proofing; the audio-visual centre was defunct and had literally no power; and there were never enough volunteers to explain anything. His greatest concern was that with DBT's funds drying up, the R&D and outreach had become weak, and less children visiting the park³. I am not sure if the Park authorities took this feedback in the right spirit and acted on them. I have not had a chance to visit the Butterfly Park over these years, and I do genuinely hope there is an overall improvement.

Over the next years, Chandru's association with DBT continued and he was able to obtain more research funding from that agency. He and I continued to meet off and on, and soon our liking turned into friendship. The last time I saw him in person was on 11 January 2020 at NCBS, when my daughter Meghana gave a talk after her PhD viva was over. We had not spoken before that event, but in a gesture that touched my heart, he got to know of the same from Professor Ganeshiah and came over with him. It was so typical of him to share the joy of his friends! The last I spoke with him on telephone was on 19 December 2020.

Each time I think of Chandru, I come back to the same point: the world has too many smart people. What we need are a few *good* people like Chandru. Unfortunately, the gods (or whoever) have stopped making people like him a long time ago.

S Natesh, PhD, taught at Delhi University for nine years before moving to the Department of Biotechnology (DBT), GOI and retiring in 2012. Presently he is at the DST Centre for Policy Research, IIT, New Delhi. He got closely associated with Chandrashekara while coordinating projects of DBT and NBDB carried out by Chandrashekara and over time became a close friend.

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³ Chandrashekara K, Kumar A. R. V., Jayappa J. 2009. Bannerghatta Butterfly Park – Three-year report card. Biotech News. 4 (5): 84-88.

My close friend

GT Veerabhadra Reddy



Equanimity personified. Chandru at recess after a gruelling meeting. Photo: R Revanna

It upset me no end when I heard that Chandru was no more. Fond memories of the time I spent with him at the colleges at Hebbal and GKVK from 1976 to 1983 are still fresh in my memory. Both of us joined late as we belonged to the batch that was popularly called the 'Minister's' or the 'late admitted' batch of 50. He was a day scholar throughout the period of his study in the College of Agriculture at the UAS, Bengaluru, while I stayed at the students' hostel.

Quite often I'd be a defaulter in the hostel for not having paid the hostel fees on time. Chandru would then be the angel by my side. He'd ask me to accompany him to the college cafeteria and force me to have all that he had in his lunch box, while he bought himself a meal that the cafeteria had on offer. His lunch box contained the most delicious lemon rice or dosa cooked and packed by his mother. Even now while my mind is ridden with guilt at having deprived Chandru of what was rightfully his, my mouth keeps watering at its very thought. Being a defaulter sure had its advantages. It was Chandru's selfless act that kept the wolf from my door during some of those dark days.

I had an opportunity to go and stay in his house. On that occasion when I met his father, his advice directed at both Chandru and me was fully in accord with one who had retired from the armed forces. He said that while we should strive to do well in academics to succeed in life, we should also learn to be disciplined and responsible citizens in society. His mother too would warmly converse with me, enquiring about my family and the conditions that prevailed in my village.



He'd ask me to accompany him to the college cafeteria and force me to have all that he had in his lunch box, while he bought himself a meal that the cafeteria had on offer.

Chandru had an enviable collection of books on a multitude of subjects. While he would generously lend me several books on science in general, he was particular that I take books on ornithology. This introduced me to a whole new world, that of agricultural ornithology. He further introduced me to the delights of birdwatching. With his binoculars slung over his neck, he'd take me along to the Habbal lake. In those days it harboured an unimaginable diversity of seasonal birds, which subsequent 'development' has sadly obliterated. To say that he was an enthusiastic ornithologist too would be no exaggeration.

An instance that shows Chandru's organisational skills as well as his indomitable spirit was the manner in which he made accomplished cricketers out of tyros. When some of my batch mates and I went brimming with enthusiasm to play cricket in the open-air stadium at GKVK – the construction of which was yet to be completed then – we were side-lined as novices and denied an opportunity to either bowl or bat. We decided that we had to learn the game and Chandru donned the mantle of our coach. We located an empty plot of land in the midst of a dense stand of eucalyptus between GKVK and Allalasandra, and commenced playing cricket with a cork ball. Chandru kept honing our skills and over time we began playing the game wearing gloves, pads, and abdominal guards. Soon we became a local team of reckoning and enjoyed playing weekly matches with a regular cricket ball at the Hebbal campus.

Although Chandru was soft-spoken he never hesitated in chastising us in no uncertain terms for even small mistakes that we committed, irrespective of whether we were his classmates or his seniors. He helped and guided several of his classmates in the collection, mounting and labelling of insect specimens which was mandatory for the final year graduate students who

had registered for entomology. He would freely distribute several specimens from his collection to his many friends without hesitation, making him the most admired individual in our entire batch.



He further introduced me to the delights of birdwatching. With his binoculars slung over his neck, he'd take me along to the Hebbal lake.

About a dozen of us constituted the batch of students admitted for the MSc degree programme in 1976. Chandru would liven up many a dreary hour by mimicking virtually every teacher –including Dr Channabasavanna, Dr GK Veeresh, Dr Devraj Urs, Dr S Lingappa, Dr CA Viraktamath, Dr D Rajagopal, Dr B Mallik and Dr Balasubramaniam – both in and out of class. On our trip to Mudigere for the collection of insects we would all take our collections to Dr Mallik for identification. Instead of assigning a definite identity to the insect collected, he would often say that it could be this or that insect. Later, Chandru would imitate him by assigning tentative identities to the insects we had collected. As greenhorns, little did we then know that the field of insect taxonomy was so immense and that no individual could ever identify all the insects that one encountered.

Chandru was very good at writing and we learnt how to write our tour notes from him. He was extremely well informed and had definite views on all social and political happenings. A rare quality that he possessed was his capacity to defuse the tension that developed in any situation by injecting a timely dose of light-hearted banter. But for this uncanny ability of his, many a friendship would have been irretrievably lost.

I have lost a close friend in Chandru and I lack the words to express the deep anguish that I will have to bear for the rest of my life.

GT Veerabhadra Reddy retired as Assistant Director of Agriculture, Department of Agriculture, Karnataka, and now works for MYRADA Green College, Holalkere, Chitradurga as a Fundraising and Partnerships Manager. He was Chandru's classmate during graduation and postgraduation from 1976 to 1983. He remained in touch with Chandru for advice to tackle insect pest problems.

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Never-ending inspiration

Prabhu Ganiger



Chandru distracted by conversation, missing an anxious moment in a cricket match that his son Karthik watches with mounting tension.

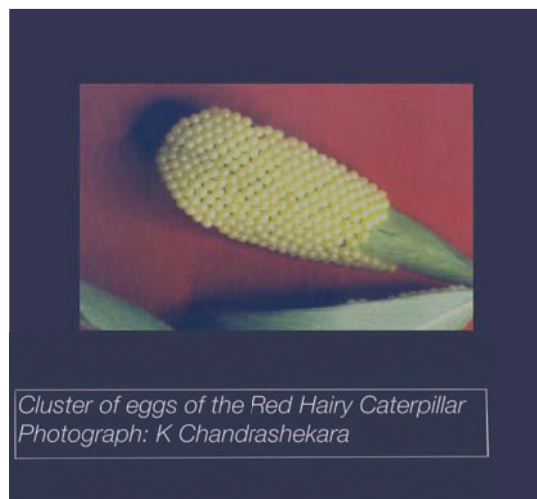
My association with Prof. Chandrashekara began, when as a PhD student, I registered for a course he offered - 'Insect Behaviour'. I knew little about him then. His method of teaching involving the raising of questions that he'd answer himself was unique and curious to me. This method was nevertheless stimulating, forcing us to think and motivating us to pursue the many lines of thought he opened up during these classes. I still have the notes I made during the course and retain the review papers on

topics in the field that he assigned to me. He often recommended a number of books that he urged us to read, including those by Richard Dawkins and Stephen Jay Gould, which were not directly related to insect behaviour. That was not all, he asked us to see the documentary film Swamiyaana, the biography of the eminent botanist BGL Swamy, on YouTube.

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We were even exhorted to read Jonathan Livingston Seagull by Richard Bach and The Little Prince by Antoine de Saint-Exupéry. Dr Chandrashekara knew that kindling the imagination was the key to the making of a good experimental biologist.

I cannot forget the incident of my bringing egg masses of the Red Hairy Caterpillar from Pavagada in Tumkur district to the Department of Entomology at GKVK. As suggested by Dr ARV Kumar, I approached Dr Chandrashekara for taking some photographs for me. Without a moment's thought he suspended all that he was doing and set up his microscope and the necessary attachments for photomicrography and took the most striking photographs which I could use in my thesis.



I was keen on attending the course on 'Immature Insects' that he offered. He denied permission on the grounds that my research work would leave me with little spare time. When I persisted, he agreed saying that if I was so interested, I could attend only if I assisted in teaching too. This experience has stood me in good stead as a result of which I am able to handle these classes with confidence today.

When there was an outbreak of the fall armyworm in July, 2018, I was told by one of my professors to inform Dr Chandrashekara and to publish it as a research note. Hearing this, Dr Chandrashekara was furious. He felt that the dissemination of the information among the farmers and alerting them to the measures to be taken to manage this serious pest was a matter of utmost urgency. It should take precedence over a research publication. Accordingly, the 'State Pest Surveillance Advisory Committee' was informed. The folly of my urge to publish a paper which would have delayed the timely adoption of control measures by the farmers and Dr Chandrashekara's wisdom in this regard, then became evident to me.

He used to be among the most active members of the staff in our stall during the annual Krishi Melas, always ready to explain details of the exhibits to visiting dignitaries. Just as he would always exhort us to do, we'd see him listening intently to the farmers who came to the stall and offer his suggestions only after he had heard them out in full. He would also record meticulously the sales of the publications and biopesticides from the stall.

On one occasion, I was approached by an agricultural company based in Hyderabad, to test the efficacy of their light traps for the management of insect pests. I took them to Dr Chandrashekara who was then the Head of the Department of Entomology. When they appraised him of the purpose of their visit, he was emphatic that while light traps could be used as monitoring devices, they were ineffective in crop pest management. The company officials then said that they had certificates of the efficacy of their light traps to control pests from other

agricultural universities. This failed to cut ice with Dr Chandrashekara. He turned down their request. His bold stand on matters like this, guided solely by knowledge and reason, is to be admired and emulated.



Chandru on the field with the cricket team

Under the auspices of the Entomology Club, cricket matches were organised with different teams at GKV. Dr Chandrashekara not only attended these matches, but also participated as a batsman in our team. He'd often bring his son Karthik along too, to root for us during the match. On these occasions he would mingle with us without any

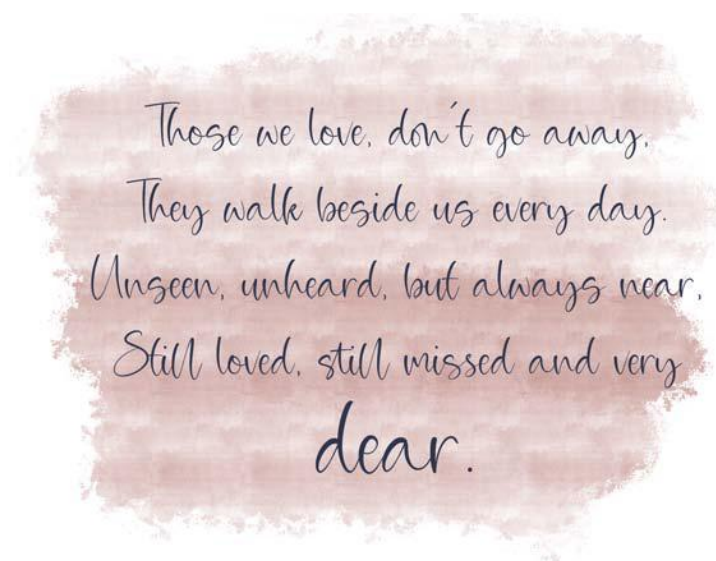
inhibition. He was no more the serious professor we encountered in class, but one of us.



Karthik, the keen cricket enthusiast, engrossed in the match

It was also largely due to his efforts that the classrooms, the UG and PG laboratories, and the seminar hall were refurbished and equipped with additional microscopes, computers and cameras.

My feelings for Dr Chandrashekara are embodied in the following words.



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A generous colleague



NG Kumar

My association with Dr K Chandrashekara is relatively recent as I was at the College of Agriculture, Dharwar and remained there till the completion of my MSc in Agricultural Entomology. I also continued to work there and at Raichur before moving to Bangalore. Interestingly when Chandrashekara joined UAS at the GKVK campus as an Assistant Professor, both he and I shared the same room - the room that was then famously called the 'land line telephone room' – one that was the envy of our colleagues in the department as there were no cell phones in those days and we were the privileged guardians of this telephone. Others had to come to our room to use this telephone, the only one available for general use. This also had its downside. It was our duty to receive all calls that came to the department (averaging over a hundred per day) and intimate those to whom the calls were meant, and they were spread out –some at a considerable distance from us -in the various rooms of the department. Since I was working for the AICRP on Soybean and had to visit the field in the forenoon every day, it fell on Chandrashekara to undertake this not too pleasant task which he did without rancour till he was shifted to the AICRP on white grubs.



In my view it was only he, from among all in the department, who understood the importance of soil biology and ecology in its entirety.

Chandrashekara, with great foresight purchased Tullgren's funnels of various designs for his scheme which he generously and unhesitatingly gave me for use in the practical classes for postgraduate students. These are even today in the possession of the soil biology laboratory and are being used by students undertaking research in this field of study. In my view it was only he, from among all in the department, who understood the importance of soil biology and ecology in its entirety. Whenever he read papers of interest on termites and other soil fauna (both macro and micro) he'd pass them on to me.

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A biological control laboratory was also planned by [Chandru and others] adjacent to the Department of Plant Pathology ... This laboratory however failed to survive the ravages of time.



Chandru (second from right) with the who's who of the UAS, GKV and S. Natesh, DBT, GOI at the site of the School of Ecology and Conservation, GKV. Photo: R Revanna

Chandrashekara not only offered advice but also lent a helping hand to me in compiling the annual reports of the department during my period as the Head of the Department. It was during this period that he, along with Dr Mallik, Dr ARV Kumar and others, came up with the idea of organising the Darwin symposium and the Coleman series of lectures. He also suggested that we organise insect exhibitions at three-year intervals.

A biological control laboratory was also planned by them adjacent to the Department of Plant Pathology with the cooperation of Dr SC Chandrasekhar of that department. Dr R Govindan, who was then the Dean (Agri.), lent his support in setting up a unique laboratory with all the required facilities. This laboratory however failed to survive the ravages of time.



He was deeply concerned that equipment in the laboratory be put to use and not lie idle for want of maintenance.

When I organised the National Symposium on Soil Biology and Ecology at UASB in 2013 and 2016, it was he who suggested that it be conducted in a novel manner. It is impossible for me to forget his invaluable advice as I was the Organising Secretary of the Symposium.

He was deeply concerned that equipment in the laboratory be put to use and not lie idle for want of maintenance. An old microscope that for many years had not been put to much use in my laboratory was taken by him and placed in the laboratory for use by the students.

I was deeply grieved to learn of the early demise of this multi-talented colleague of mine whom I met last about a fortnight before his retirement.

NG Kumar, PhD, *having served in various capacities, retired as Professor of Entomology from the UAS, Bengaluru.*

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The boy Shekara

NN Raghavendra Rao



Shekara, identifying with the needy, in the 'garb' of one whom he admired. Photo: GP Brahmaprakash

Shekara, as we fondly called Dr Chandrashekara, was introduced to me about 52 years ago in Varanasi. His family, which included his parents – the late Sri V Krishnappa and Smt Lalithamma – and his two brothers (Sri Vishwanath and Sri Balaji), was among the few Kannada speaking families in Varanasi in those days. My family being from Bangalore, it was inevitable that our families were drawn together. My brothers and I enjoyed spending time in their house. At these times we did not fail to notice how attached Shekara was to his family and how much he respected his parents. We drew inspiration from this.



Shekara's willingness, at all times, to help those in need was an outstanding trait that struck a chord in every one of us.

Once our families relocated to Bangalore, we'd visit them at their home in Thyagarajanagar. The warmth and hospitality that he and his family bestowed on us on these occasions, was indeed memorable. Shekara's willingness, at all times, to help those in need was an outstanding trait that struck a chord in every one of us. And it will forever remain embedded in our minds.

He was passionately devoted to entomology. His impressive contributions to this, his favourite subject, during his tenure at GKVK stand testimony to this. His untimely death is a great loss to his family and his vast network of friends. I am sure he will be missed immensely.

NN Raghavendra Rao, PhD, *retired as Senior Scientist, ICAR-IIHR, Bangalore. Chandru's and his families have known each other since the 1970s.*

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An inspiring teacher



Priyankar Mondal



Chandru and Yamini at the insect exhibition, GKVK. Photo: HM Yeshwanth

I am Priyankar, the “Bangali boy” who irritated every single person in the department from 2017 to 2019. My relationship with Dr Chandrasekhara is hard to put into words... neither was he my supervisor, nor was he a member on my advisory committee. He was not my teacher either, in the literal sense, since I registered for none of the courses he offered during my entire MSc programme (though, I did sneak in twice to attend his classes on Insect Behaviour that was being offered to PhD students). Nevertheless, I wanted to remain close to him, get influenced by his words, and often went to bed thinking and criticising something that

he had said, only to wake up early to share my ideas with him (many a time over a cup of coffee). Dr Chandrashekhara was one of a kind who greatly influenced me. He was someone whom I could text at 2 am, in the wee hours of the morning, writing “Eureka! I have solved it, sir! I will show it to you tomorrow!!” Not surprisingly, the next day he’d get me puzzled over another facet of the problem. That was the nature of the relationship we had, and one that continued even after I left the university. It is what I learnt from these informal interactions with him that sustains me whenever I am pushed beyond my comfort zone. He will always live within me and continue to inspire me for all time to come.

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He was not my teacher... in the literal sense, since I registered for none of the courses he offered during my entire M.Sc. programme ... though, I did sneak in twice to attend his classes on Insect Behavior ... being offered to PhD students...

Priyankar Mondal is now a PhD student at Bidhan Chandra Krishi Viswavidyalaya, Kalyani, West Bengal. He was a student at UAS, Bangalore during his M.Sc. programme.
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Remembrance of things past



Chandish R Ballal

As a young scientist, I had heard my colleagues at PDBC / NBAIR speak very highly of Dr K Chandrashekara's vast knowledge and humility. Since then I was always keen on meeting him. I finally did, at the seminars organised by the Department of Entomology, UAS, GKVK and was hugely impressed by the manner of his interactions and the insightful questions he posed to the speakers, besides his ever-pleasant demeanour.



Chandru (Rear) with colleagues in front of the GP ChannaBasavanna Seminar Hall, Dept. of Entomology, GKVK.

Photo: Revanna

My first direct interaction with Dr Chandrashekara was in 2015, in a totally informal context. I was seeking the email addresses of some of my friends (including Dr Chandru) at the Dept of Entomology, GKVK to send them invites to my daughter's wedding. Each one said that someone else could help, till finally my request found its way to Dr Chandru himself. He shared all the email addresses I had requested for and when I sent him the invite, the response was by far the warmest of all.....wishing me, blessing my daughter and expressing his joy through his simple, yet beautiful and uniquely framed sentences.....to me this mail reflected his affectionate and warm personality, giving me a feeling that we had for long been friends!!

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...his suggestions for planning... future programmes... were impactful receiving the endorsement of the organizers...

The next (and unfortunately, the last) interaction I had with Dr Chandru was during the thematic consultation on *Biodiversity, Agriculture and Nutritional Security* as part of the *National Mission on Biodiversity and Human Well-Being* which had been organised at the *Royal Orchid Resort & Convention Centre*, Bengaluru, on 29th October 2019. While his suggestions for planning the future programmes under the *National Biodiversity Mission* were impactful receiving the endorsement of the organisers; sharing the table with him was what I enjoyed the most. Dr Chandru's intermittent humour-laden remarks accompanied by his wide smile, was what made that day interesting and lively.

At this sombre juncture, I can't help but wonder at the heartlessness of a world in which we are most often deprived of the company of those rare individuals, like Dr Chandru, whose continued presence would have made this a better place to live in.

Chandish R Ballal, PhD, retired as the Director, National Bureau of Agricultural Insect Resources (NBAIR), Bengaluru and Project Coordinator, AICRP on Biological Control. She began her research career in the Commonwealth Institute of Biological Control, Bangalore and went on to work as a scientist at the Indian Institute of Horticultural Research, Hessarghatta and finally in the newly created Project Directorate of Biological Control, Bangalore, which in turn underwent various nomenclatural changes to finally become NBAIR Bangalore.

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Guide and motivator

Srinivasa Reddy



Chandru (fourth from right) looking on while a Research Assistant explains facets of butterfly rearing to officers of the Forest Department in the newly established rearing facility at the Butterfly Park, Bannerghatta. Photo: Revanna



I missed an examination and, as was customary, expected to be given a re-exam. To my surprise, he gave me a practical assignment on wasps instead.



My journey with Dr Chandrashekara began in 1996 as a student of MSc in Agricultural Entomology. I registered for the course 'Insect Crop Pests' being offered by him. I missed an examination and, as was customary, expected to

be given a re-exam. To my surprise, he gave me a practical assignment on wasps instead.

Under the guidance and encouragement of Chandrashekara sir we successfully organized an insect exhibition to wide acclaim at Lalbagh, Bangalore when as a PhD student I was an office bearer of the Entomology Club.



The constant fear that failure ... could cost me my coveted job was always at the back of my mind. But I soon realised that with Dr Chandrashekara for constant guidance, my fears were unfounded.

In 2007, the Bannerghatta Butterfly Park was in search of an entomologist. My friends and I, as well as a retired Professor from our Department, attended the interview in response to the advertisement for the post of Entomologist. Dr Chandrashekara was a member of the interview panel. I was fortunate to be selected for the post. My job was the difficult task of rearing butterflies in large numbers and ensuring that sufficient numbers were available throughout the year for release in the butterfly enclosure. The occurrence of parasitoids and diseases, causing large scale mortality at times, kept me in a state of perpetual anxiety as I kept trying to keep the numbers bred high enough to stock the enclosure and not deprive the public of their viewing pleasure. The constant fear that failure to do so could cost me my coveted job was always at the back of my mind. But I soon realised that with Dr Chandrashekara for constant guidance, my fears were unfounded.

In 2009, I joined as an Assistant Professor of Entomology at UAS, Bangalore and became his colleague. He then donned a new mantle and began goading me to write research projects, strike out in new directions of inquiry and bring in much needed funds for the development of the department. I consider myself lucky to have been associated with him in multiple roles as a student, a co-researcher and a colleague.

Srinivasa Reddy, PhD, is currently Junior Entomologist in AICRP on Sunflower, UAS, Bengaluru.

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He determined my career

DN Nagaraj



Chandru (extreme left) on an official visit with colleagues in Jharkand. Photo. GP Brahmaprakash

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fter my MSc I embarked on a career for the large-scale production of biological control agents. Dr Chandrashekara and Dr ARV Kumar were my mentors, constantly guiding me through the technicalities of the various production protocols to make my venture a success. We often engaged in long discussions to devise methods to streamline the production of these bioagents.

When I gained admission to the PhD programme at GKVK I became aware of his brilliance as a teacher and as a scientist of outstanding merit. He was a perfectionist, always encouraging students to strive for excellence. He intuited my talent for photography and encouraged me to take up macrophotography. From being confined to taking pictures of birds, flowers and the like, I now widened my repertoire to include the smaller things in nature.



[Dr Chandrashekara] intuited my talent for photography and encouraged me to take up macrophotography. From ... taking pictures of birds, flowers and the like, I ... widened my repertoire to include the smaller things in nature.

Guiding me on many fronts, he enriched my life in a myriad ways. This reminds me of one striking incident in July, 2018. Dr ARV Kumar and he asked me to meet them at the office of the manager of a corporate company. Following the formal introductions, they told the head of the company that I was the person who would mass produce the black soldier flies required as biological control agents by them. They then made me establish the facilities and take up the production of these flies. Since then, taking a turn for the better, my career changed for ever.

I always admired and will always remember his humility and down to earth attitude. His departure has left a gaping void that can never be filled. I pray that god give courage and strength to all in his family to withstand this irreparable loss.

DN Nagaraj, PhD, *is a senior scientist at Bio Pest Management Pvt Ltd, Bangalore, involved in the production of pheromone traps and lures for various insect pests.*
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The erudite and student friendly professor

Dishant James

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Dr Chandrashekar immediately took the sheet from me, patted my back, and asked me to relax. He went on to introduce the speaker without any preparation, with just an occasional glance at the sheet of paper he took from me.

It was the science week of 2018. I was to introduce the guest speaker - a famous scientist. A day before the inaugural function, Dr KC Sir called me to his chamber and asked me whether I had received the biodata of the guest. When I said I had not received it, he called up the guest and requested him for his biodata. In a short while, it was mailed, and I was reading the printout. Sir gave me some quotes and suggested improvements for my introductory speech.

The next day, when I saw the guest and all the dignitaries, I felt that it would be inappropriate for a student to introduce such an eminent person. I expressed my apprehensions and Dr KC immediately took the sheet from me, patted my back, and asked me to relax. He went on to introduce the speaker without any preparation, with just an occasional glance at the sheet of paper he took from me.

After the function, I went and asked sir how he managed to do it and he told me, “Well young man, I had anticipated this by looking at you yesterday. Though you are an anchor, you seem too modest for giving introductions. So, I had the soft copy of the guest’s CV in my mobile. Before coming to the auditorium, I read it thoroughly two to three times, just as a backup. What if you did not turn up due to a sore throat? So, I did not face any problem in giving the introduction.” That was how prepared and erudite Dr KC was.

Whenever I had to go to National Literary Competitions, I used to consult sir and take his advice as he was always up to date and had great language skills. Hats off to the legend. The University of Agricultural Sciences, Bangalore and all its students who knew sir will always miss him.

May his soul rest in peace and bless us from above.

Dishant James, PhD, *is an Assistant Professor of Agricultural Extension at Karunya University, Coimbatore. He did his post graduate studies in Agricultural Extension from UAS, Bangalore.*
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Cheerful and enthusiastic Chandru

R Sundarrajan



Chandru absorbed in an exhibit at a museum. Photo. GP BrahmaPrakash

My most recent interaction with Chandru was in the context of the review of an article on the Pesticide Management Bill for publication in Current Science. It was a lot of back and forth interaction in which he facilitated the review process...

In my rather limited interaction with him, I could never ever think that he was fighting an ailment to which he

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I could never ever think that he was fighting an ailment to which he eventually succumbed ... neither his voice nor his conduct with me ever showed any traces of physical discomfort ...

eventually succumbed, because neither his voice nor his conduct with me ever showed any traces of physical discomfort ...

He always sounded cheerful and full of enthusiasm for life

R Sundarrajan, PhD, *did his Master's in Entomology from UAS, Hebbal during 1976-1978. After a long stint in the AgroChemical Industry he is now retired and lives in Chennai. He considers himself a part of Chandru's "gang of friends".*

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Fashioning minds

G Sugeetha



Chandru at his farewell function on the day of his retirement at GKV. Photo: HM Yeshwanth

Dr Chandrashekara was one of the most reputed professors in the Department of Entomology, GKV. His overpowering presence was bound to leave its mark on all those who interacted with him. My acquaintance with him commenced when I joined the department for my post graduate studies. He was then an Assistant Professor of entomology. While I admired his simplicity I was in absolute awe of his extensive knowledge of entomology.



Recent research papers would be brought to our attention and he'd invite our opinion. A detailed discussion would follow in which we all had to participate. This helped immensely to hone our capacity to think critically, develop our analytical powers, improve our debating skills and boost our confidence levels.

During my doctoral programme I registered for the course on 'Insect Behaviour' that he offered which was when I came to know him better. He had an engaging method of teaching. Recent research papers would be brought to our attention and he'd invite our opinion. A detailed discussion would follow in which we all had to participate. This helped immensely to hone our capacity to think critically, develop our analytical powers, improve our debating skills and boost our confidence levels. These classes were so lively, refreshing and enriching that we enjoyed them very much.

Dr Chandrashekara was always gentle and dignified with a degree of refinement and taste that few others could match.

I was deeply shocked and saddened to hear of the untimely death of Dr K Chandrashekhara. His passing away is an irreparable loss to his family, to the Entomology Department and to UASB. My deepest condolences to his family and prayers to help them overcome their loss.

G Sugeetha, PhD, is an Assistant Professor in the department of Agricultural Entomology, V. C. Farm Campus, Mandya.

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A delightful teacher

BS Rajendra Prasad



Chandru observing insects by a freshwater pool. Photo: HM Yeshwanth

Dr K Chandrasekhara was a friend and inspiration to generations of students and young scientists. When I joined the entomology department for my Ph.D. I was unsure about what I should be doing. My indecision was soon to be effaced. Chandru sir never grudged me his time. Over several cups of tea, he introduced me to a range of ideas and concepts in nature, science, people, history, and culture with

unfettered enthusiasm. Science to him was an endless source of simple delights. I could see that like me he inspired many a young mind in the university.

He enjoyed teaching and offered the courses 'Immature Insects' and 'Chemical Ecology' which he taught with gusto. It was he who initiated research in chemical ecology in the department. He inspired all of us with his child-like curiosity. There was never a dull moment and we'd never tire of listening to him even when he spoke for hours on end. His absence cannot be filled, but his thoughts will continue to inspire us – always.

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Over several cups of tea, he introduced me to a range of ideas and concepts in nature, science, people, history and culture with unfettered enthusiasm. Science to him was an endless source of simple delights.

BS Rajendra Prasad, PhD, *is a Scientist (Plant Protection) at ICAR-Krishi Vigyan Kendra, Ramanagara (UAS-B). He was a student and a colleague of Dr Chandrashekara.*
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Words fail the brimming heart

TD Nidheesh



“

... we called you ‘tiger’ ... as you [held] us spellbound – not allowing our attention to swerve - through the entire period in class like a feline that holds its prey transfixed and powerless in its cold gaze.

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ostalgia chokes me and my heart grieves as my mind harks back to those days long gone by when I and all those in my class sat in thrall through your lectures sir. Hyperbole, it may be, and perhaps you do not know, we called you ‘tiger’ in class as you would hold us spellbound – not allowing our attention to swerve - through the entire period in class like a feline that holds its prey transfixed and powerless in its cold gaze.

What appealed even more to us was your single-minded devotion to entomology. To our young, impressionable minds, you seemed to have an answer to every question in entomology. I still remember those days when we were preparing for ‘Keetavismaya’, the insect exhibition. Your childlike enthusiasm and curiosity were infectious. It was this approach of yours that entirely changed my perspective on entomology. How I wish I could relive every moment of those days.



Chandru in conversation with Malcolm Burrows, Emeritus Professor of Zoology, University of Cambridge in December, 2017. Photo: HM Yeshwanth

While I realise that you are now no more, I know for sure that we will never again be able to experience learning from a teacher as rare as you. It is said that 'it can never be told where a teacher's influence stops'. All that I can hope for now is to pursue entomology with at least a fraction of the passion that you had for it, thus living up to your expectations.

May God bless you sir.

TD Nidheesh is a DST INSPIRE Fellow pursuing his PhD at the Department of Entomology, UAS, Bangalore. His admiration for Dr Chandrashekara led him to register for three courses that were offered by him.

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An entomologist, a greater human being

VN Hegde



Chandru (extreme right) on official visit to the Agricultural University, Jharkhand. Photo: GP BrahmaPrakash

Dr Chandrashekara, my classmate in GKVK during my BSc (Agri.) days is no more with us. We used to affectionately call him 'Chandru' as also 'Coleman' referring to his lean and slender personality. Though he was a day scholar he used to frequent the hostel and was close to all of us who resided there. He was very humble, soft spoken, simple and straight forward. He was a true academician, and more than that a thorough gentleman. He had his own opinion on all matters of general interest and a diehard interest or passion for insects and as a result of which he was able to contribute significantly to entomology. We all miss a friend and a great human being. I pray to the God

Almighty to grant his noble soul a Sadgathi!! Although he is no longer with us, his memory will always remain in our hearts.



He was a true academician, and more than that a thorough gentleman.

VN Hegde, a classmate of Chandrashekara worked in different capacities in Corporation Bank. He is currently a consultant for microfinance organisations.
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Rejuvenating walks with Chandru



Subray Hegde



Chandru (third from left) with friends exploring history. Photo: GP Brahmaaprakash

We make concerted efforts to make friends, but there are friends into whose circle one naturally gets drawn into. Chandru belongs to the latter category. His very nature used to attract people into the orbit of his friendship.

Memory is a strange place. It saves information in bits over the cloud spread all over our gray matter. I can't remember when I first met Chandru. If my memory does not serve me wrong, I probably met him at one of the scientific meetings I attended in the late 1980s. He was the epitome of activity, walking briskly around the room greeting his entomology colleagues and talking incessantly about his PhD research, tossing ideas around like hot chocolate chip cookies. What attracted me to him was the manner in which he critically analyzed many ideas and argued with equanimity, smiling all the while. He was equally at ease giving and taking

criticism. With the benefit of hindsight, I realise that I sought the friendship of an objective, rational person.



He and I took long walks down the road leading to the farm or in the Botanical Garden. ... he wanted a sounding board for his many ideas ... these walks always became welcome exercises in rejuvenation for me.

“*Enu Hegde, Enu samachaara?*”, was Chandru’s typical manner of addressing me every day in GKVK. He would come often to Ganeshiah and Uma Shaanker’s laboratory when I would be scanning ovules under the microscope. I got so attuned to Chandru’s footsteps that I could unerringly recognise his entry into our laboratory. He and I took long walks down the road leading to the farm or in the Botanical Garden. At times he wanted a sounding board for his many ideas on all kinds of topics, at other times the conversation would be more casual and unconstrained. Irrespective of the format these walks always became welcome exercises in rejuvenation for me. When I left for the U.S., he let his class off for the day and took the BTS (Bangalore Transport Service) bus (route no. 277) to bid farewell to me. When I visited GKVK during my few visits to India, I always made it a point to meet him on the campus. With his characteristic smile and penchant for posing compelling questions he remained unchanged through the years of my acquaintance with him.

It is hard to believe that this cherished friend is no more. He came into our lives, conquered our hearts, and left in haste. Though he has faded away from the corporeal to the virtual, his cherished friendship continues to remain tangible in my memory. I miss him dearly....this paragon of graciousness and wisdom called Chandru.

Subray Hegde, PhD, is Director of Biotechnology Risk Analysis Programs, USDA, California. He graduated from the University of Agricultural Sciences, Bangalore.
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Reflections on a life and career in science

Mallikarjuna Aradhya



Chandru (left extreme) and colleagues inspecting an experimental field. Photo: GP Brahmaprakash

My wife and I fondly remember the days we spent together with Chandrashekara Krishnappa (Chandru) and his beautiful family in Thyagarajanagar, Bangalore (Bengaluru now). It was during the period 1977-79 when Chandru was on the threshold of his undergraduate programme at the University of Agricultural Sciences (UAS), Bangalore. He would later go on to do his doctoral studies at the IISc, Bangalore. We learnt that he subsequently

joined the faculty of entomology at the UAS, Bangalore and continued research and teaching at the department.

Chandru was a zealous student of science and an outstanding intellect, achieving excellence in the areas of chemical ecology and evolutionary biology, unravelling the secrets in the world of his beloved insect groups for over two and half decades of his tenure. He was unquestionably an exemplary scientist with an impressive array of scientific contributions and collaborations with researchers in India and abroad and trained several entomologists during his tenure at the UAS.

It was shocking to hear of his sudden demise from a common friend of ours. Soon after, we had an opportunity to share the family's grief and express our sincere condolences to his family members. We heard that he has a brilliant son, Karthik, who is pursuing his doctoral studies in Germany and hopefully will fulfil his dad's dreams of continued contributions to science. Chandru was a curious and enduringly productive scientist and will be sorely missed.

Mallikarjuna Aradhya, PhD, *is a Geneticist at the National Clonal Germplasm Repository, USDA-ARS, University of California, Davis. Graduating from the UAS-B with a master's degree in genetics and plant breeding in 1976 he worked there till 1984. Later he went on an East-West scholarship and obtained a Ph.D. Botany (Ecology and Population Genetics) from the University of Hawaii at Manoa in 1992 and is currently in Davis.*

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A fleeting acquaintance

BS Bhumannavar



Chandru speaking at a function. Photo: R. Revanna

My association with Dr Chandrashekara was very brief and very recent. Our efforts at raising funds for the celebration of our Professor Dr CA Viraktamath's 75th birthday entailed the opening of a joint bank account with Chandrashekara and me as joint account holders. During this period we interacted several times. On

all these occasions I found him extremely co- operative and immensely helpful. He was large hearted and I have had very cordial relations with him.

We have lost an exceptionally good human being.

BS Bhumannavar, PhD, *retired as the Director of NBAIR-ICAR, Bengaluru. He was involved in research in agricultural entomology during his entire career in the ICAR.*

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The wizard of good spirits



MC Ravindranath



Chandru was drawn irresistibly to museums and sites of historical interest. Photo: GP Brahmaprakash

Some of my most wonderful moments were spent with Chandru when we did our MSc together at UAS, Bangalore. Soft spoken and cordial to a fault, conversations with him were always full of humour. His ability to mimic almost anyone was an endless source of fun to all of us adding cheer to every occasion. Chandru will forever remain etched in my memory as a wizard who could with his mere presence magically transform a dull and boring day to one of happiness and good cheer.

“Chandru will forever remain etched in my memory as a wizard who could with his mere presence magically transform a dull and boring day to one of happiness and good cheer.”

MC Ravindranath retired as a Manager from Canara Bank. He has settled down in Shivamogga.

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A rare colleague

M Thippaiah



Inauguration of the School of Ecology, UAS, GKVK (From left. M. Udaykumar, Chandru, KN Ganeshaiah, MN Sheelavantar, TK Prabhakar Shetty, S Natesh, R Uma Shaanker). Photo: R Revanna

Having Dr Chandrashekara as a colleague to work with was a rare privilege. His knowledge of entomology was profound and he could effectively convey his ideas to every listener making him a very accomplished teacher. His humility too in no small measure added to make him one of the most loved teachers among the student community.

M Thippaiah, PhD, is Professor and Head, Department of Entomology, College of Agriculture, UAS, Bengaluru.

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Briefly, from a friend

BN Nagendra



Ever-smiling Chandru. Photo: HM Yeshwanth

Dr Chandrashekara was an exceptional person. One rarely saw him without a smile and his happiness was infectious. While his knowledge ran deep, his commitment to entomology was total. Warm and kind to all, he freely shared his knowledge and was ever willing to lend a helping hand to those in need.

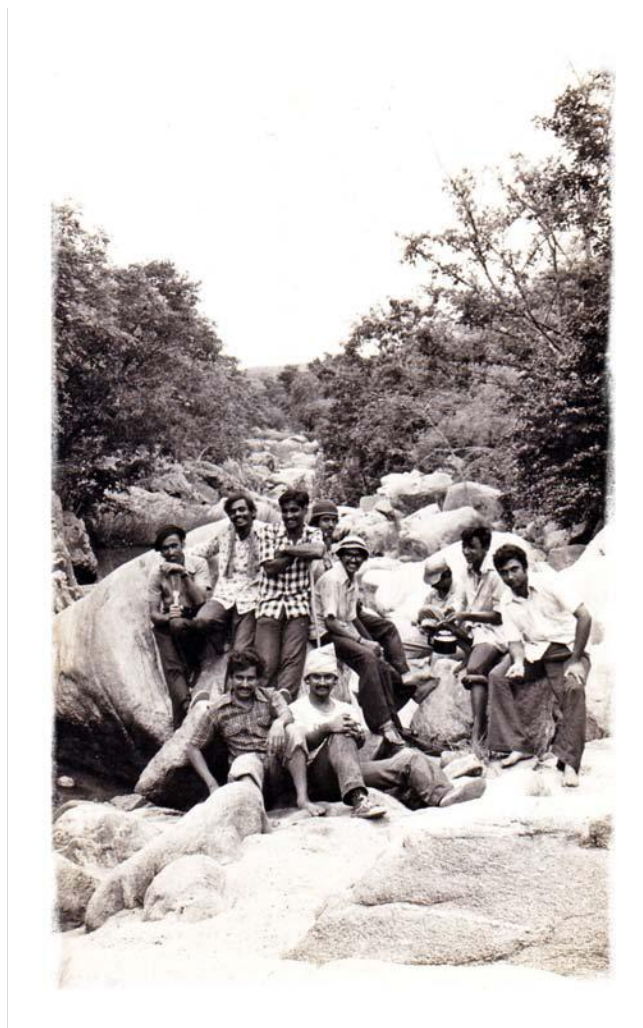
I have lost a good friend and will really miss him.

BN Nagendra retired from the Corporation Bank as Deputy Zonal Manager and was a classmate and friend of Chandru at UAS, Bangalore.

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A Double Loss

S Sridhar



At Ragihalli betta, Bannerghatta National Park in the late 1970s (Chandru second from right)

I greatly cherish my association with Chandru. With a passion for the wild, he was part of our group that frequented wilderness areas in very many places. Our most recent meeting was when he came to my friend Vinay's house to observe a *Vespa cincta* colony that had grown to monstrous proportions. While entomology has lost a legendary researcher, we have all lost a dear friend.

S Sridhar is proprietor of Navbharat Press, Bengaluru. He is a keen bird watcher and a wildlife enthusiast.

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Regional history: A passion



Anantanarayanan Raman



Chandru, the history enthusiast. Photos: G P Brahmaprakash

Dr Chandrashekara was a good friend of mine. He was enthusiastic about my Madras history articles, and we discussed many things about that dimension more than anything else. He used to tell me his son Karthik was keenly interested in Madras history. He was a good and pleasant person. I keep him in high regard and respect.

Anantanarayanan Raman, PhD, is Adjunct Professor of Ecological Agriculture—Sustainable Land management, Charles Sturt University, Orange, Australia and Senior Scientist, CSIRO, Floreat Park, WA 6014, Australia.

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